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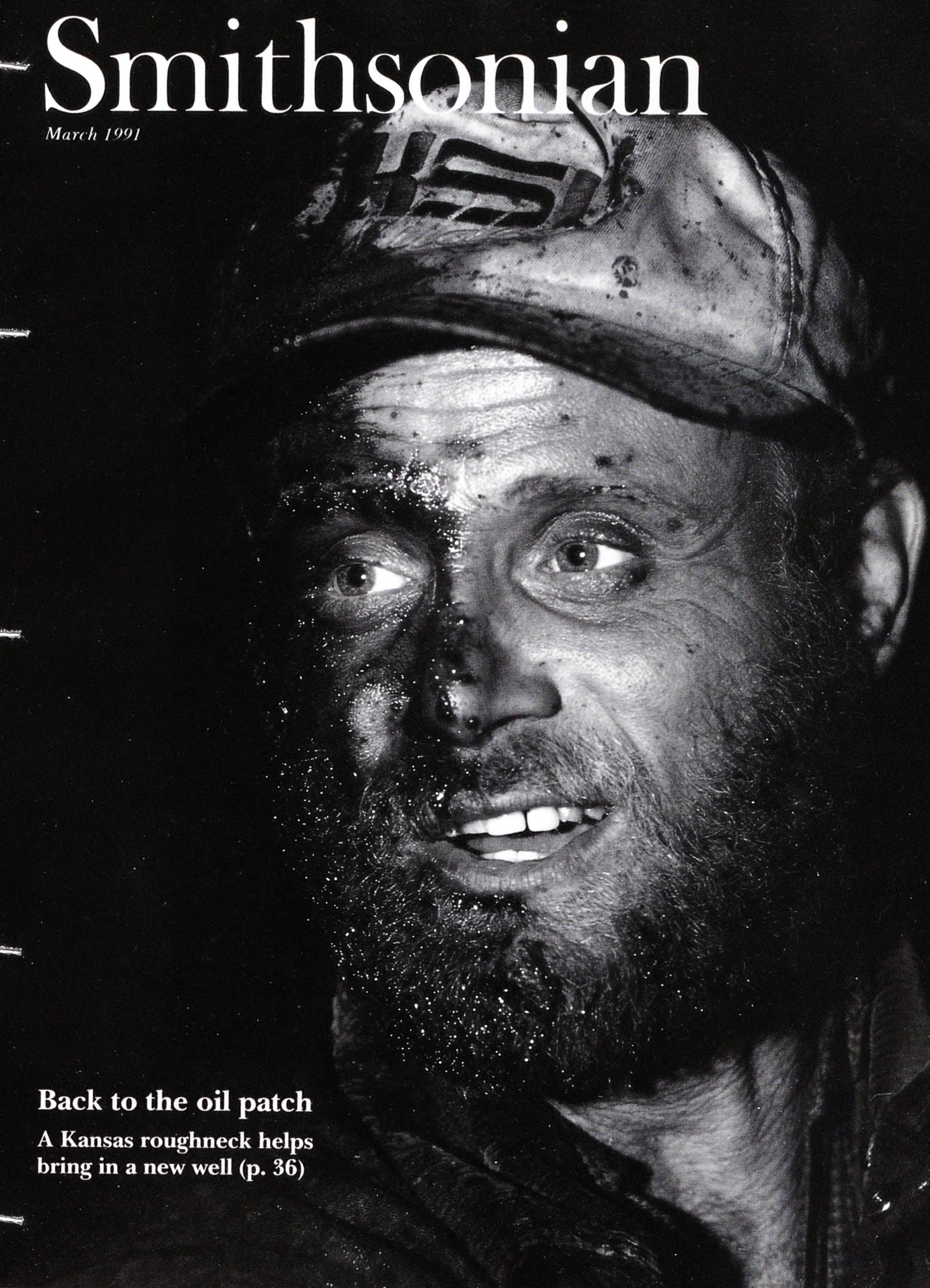
March 1991



Back to the oil patch

A Kansas roughneck helps bring in a new well (p. 36)

March 1991

Smithsonian

Volume 21, Number 12

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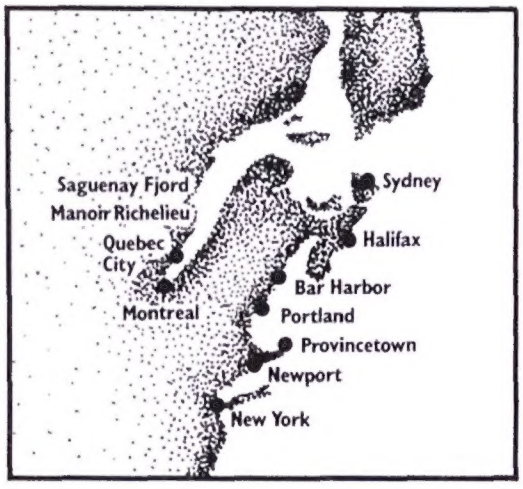

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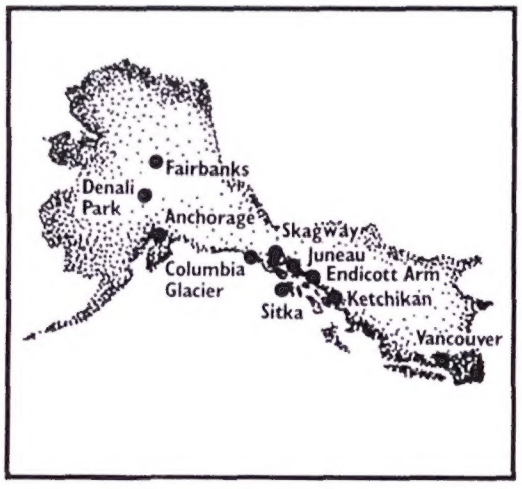

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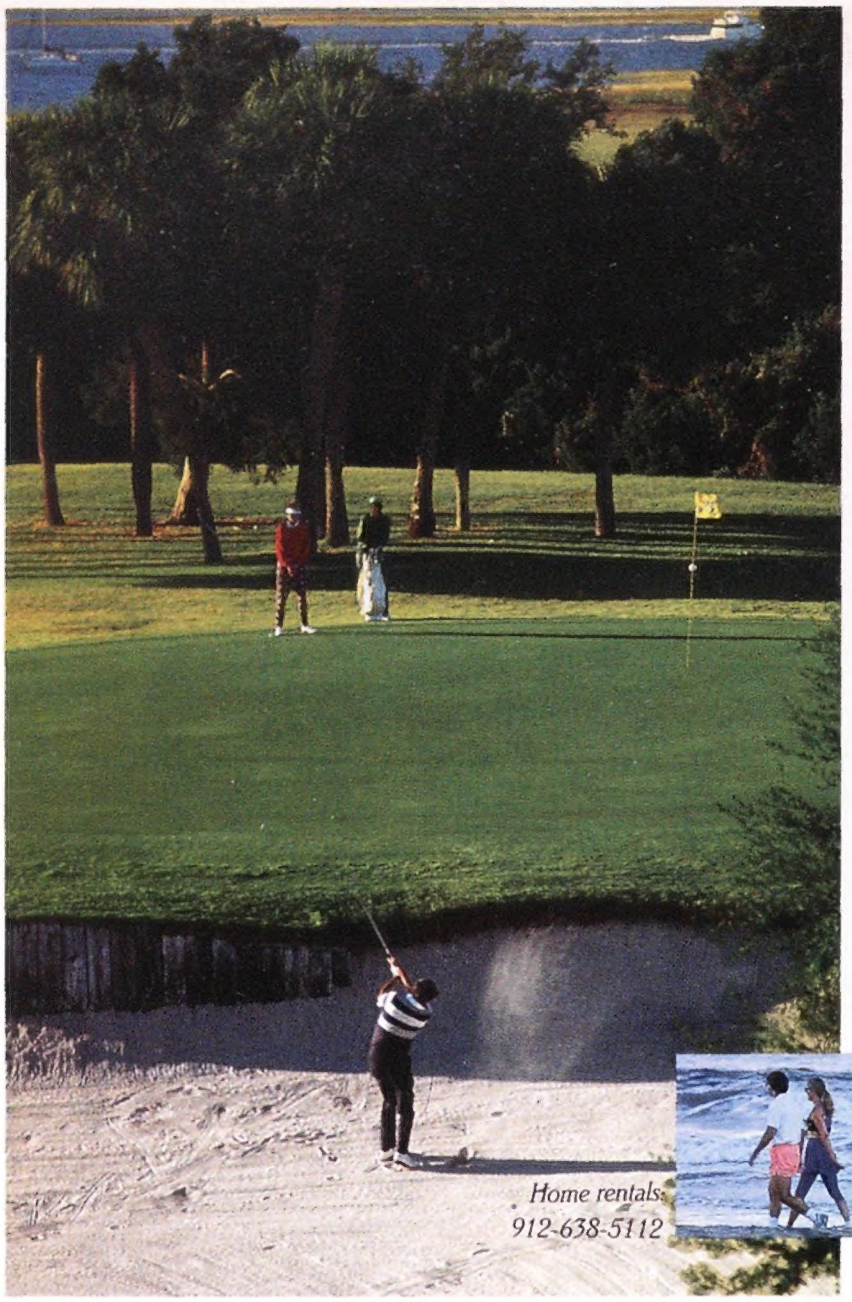

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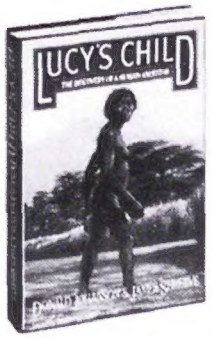

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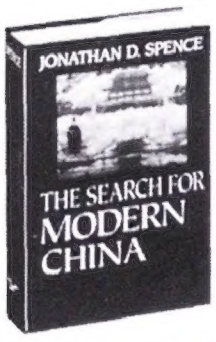

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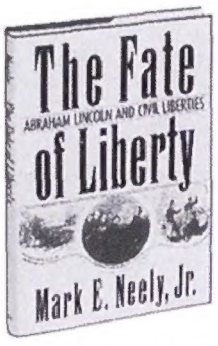

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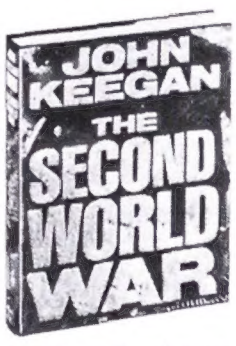

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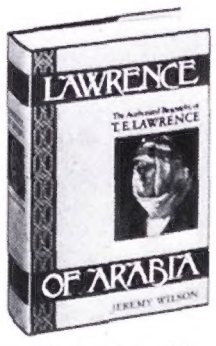

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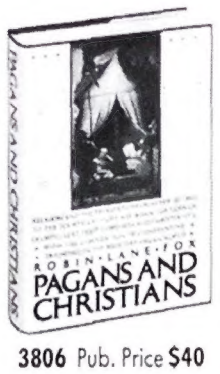

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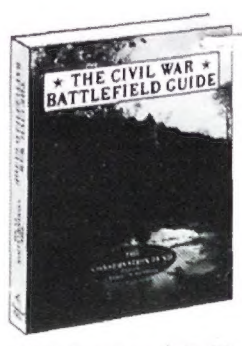

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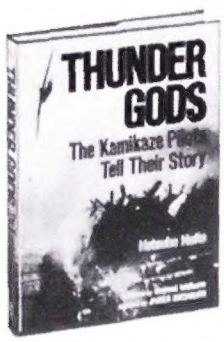

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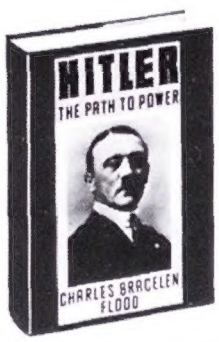

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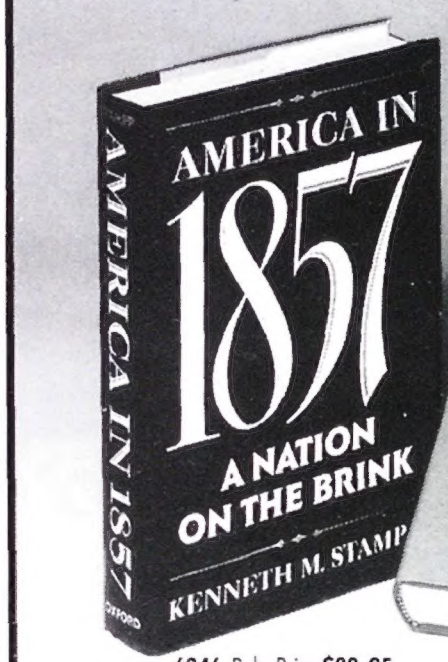

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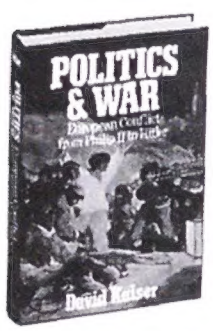

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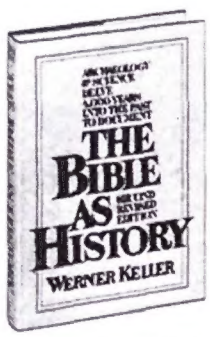

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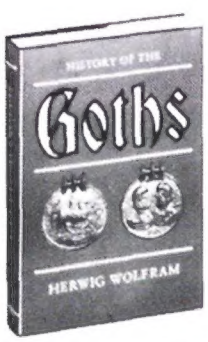

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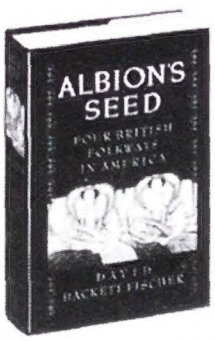

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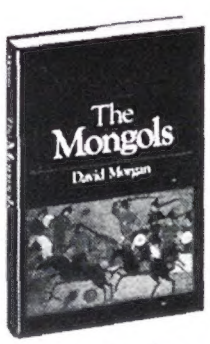

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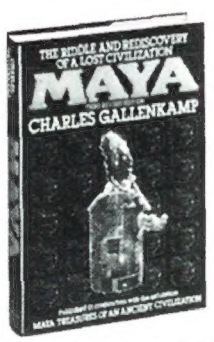

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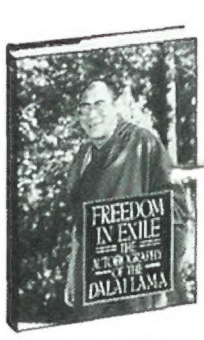

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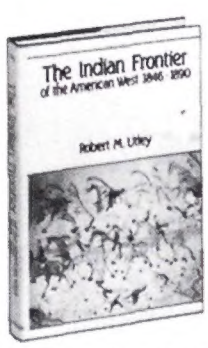

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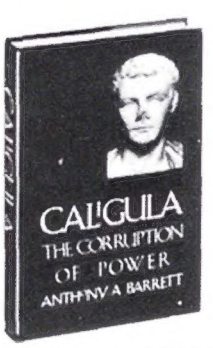

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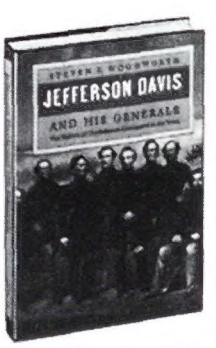

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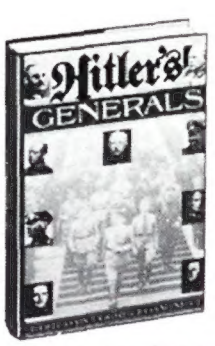

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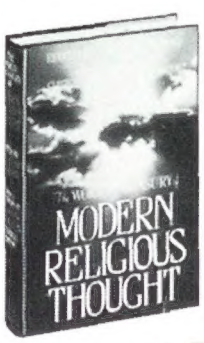

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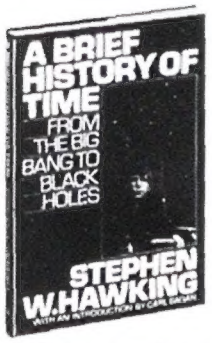

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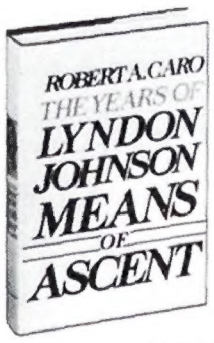

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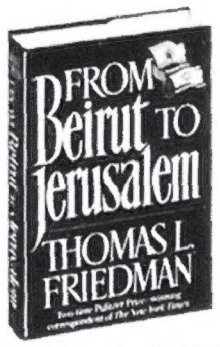

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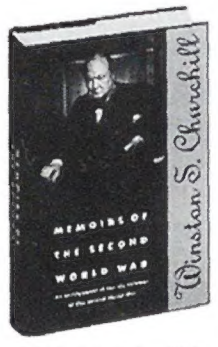

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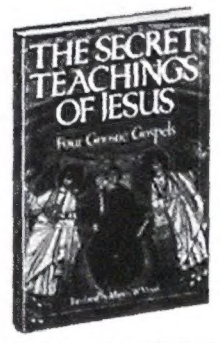

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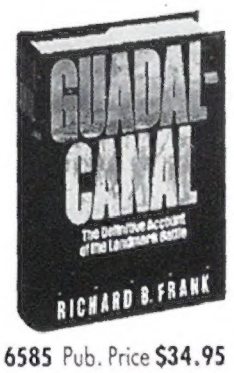

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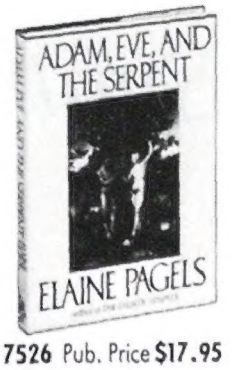

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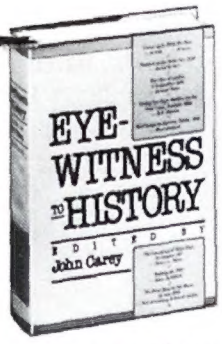

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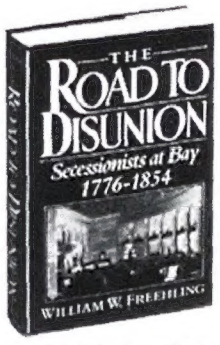

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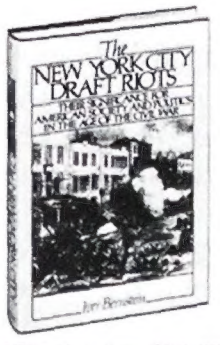

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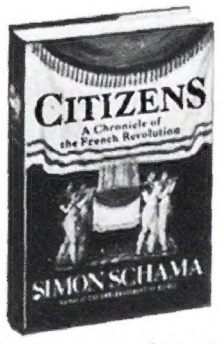

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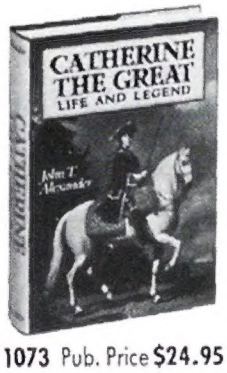

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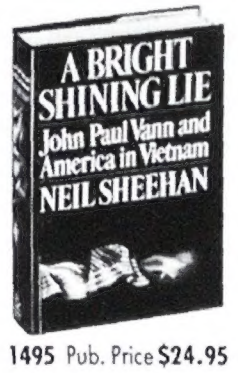

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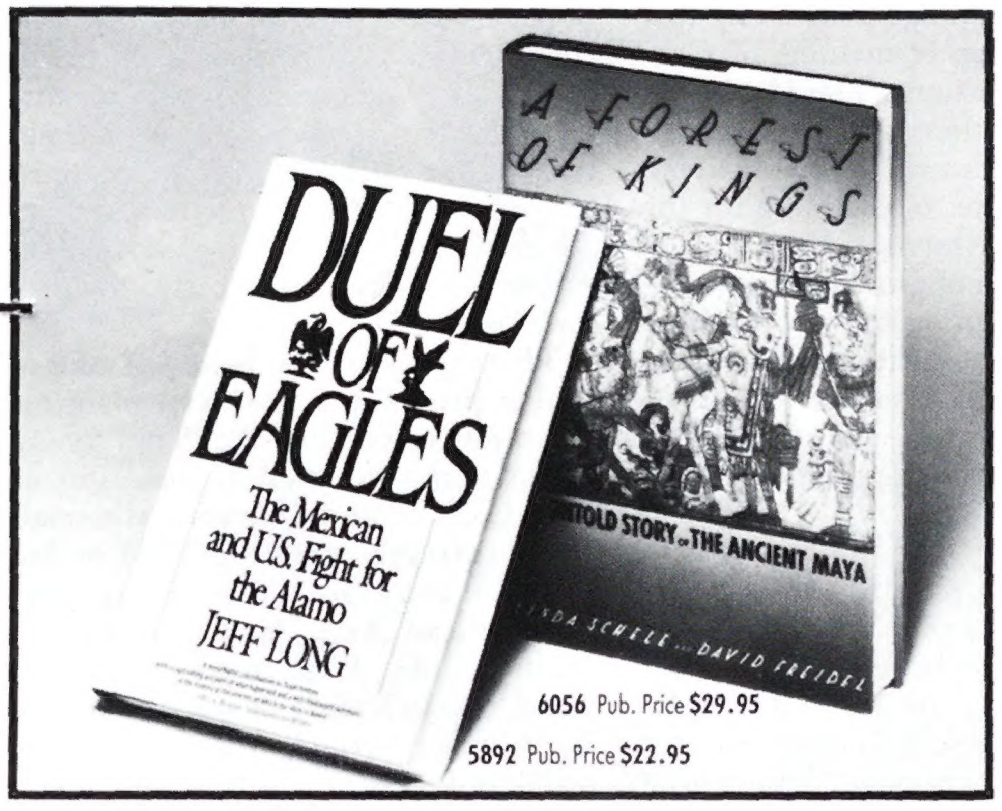
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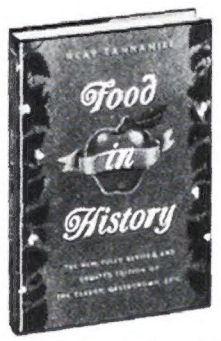

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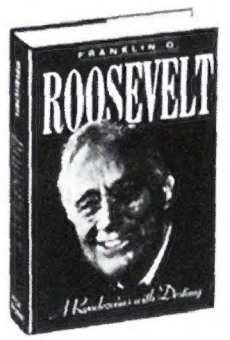

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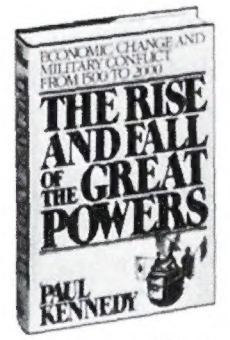

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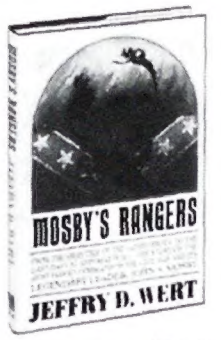

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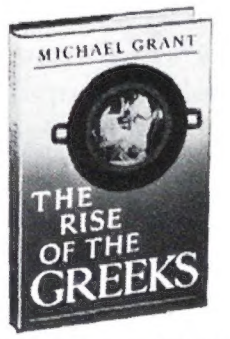

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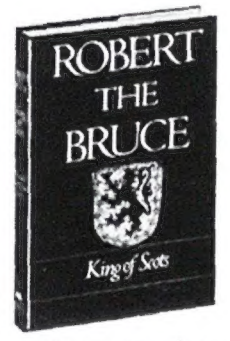

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Secretary Adams' comments

Smithsonian horizons

A population shift to the Sunbelt, as recorded in the latest census, prompts questions on the Smithsonian's future

The recently published findings of the 1990 census were accompanied in many newspapers by a map of the United States, redrawn to make the size of each state proportional to its population. This arresting depiction adds a newly massive Floridian thumb but otherwise leaves few but the largest coastline states recognizable by their shapes. Nothing could make clearer the cumulative impact of an extraordinary migration into the Sunbelt that now has almost an eighth of our entire population living in California.

That last result, coupled with the confident, further demographic projection that Los Angeles will surpass New York City's metropolitan population early in the new millennium, prompts some thought on the Smithsonian's own line of future development as a complex of national museums. It has long been our policy to concentrate our museum efforts in and around the national capital. Different criteria apply to research facilities, while the New York elements of the National Museum of the American Indian and the Cooper-Hewitt are exceptions arising from legal constraints on those great collections.

Encouraging public visitation of the seat of government by concentrating in this way is, after all, a valid objective of public investment. Other compelling arguments for the same course of action are based on economies of administration and on facilitating exhibition and scholarly study by concentrating rather than dispersing individual collections. Difficulties also can be foreseen in selecting among alternative expansion proposals that would surely follow any opening of the door to even one of them. But at what point, if any, should the ongoing redistribution of our citizenry farther and farther away from Washington bring new and potentially countervailing considerations into play?

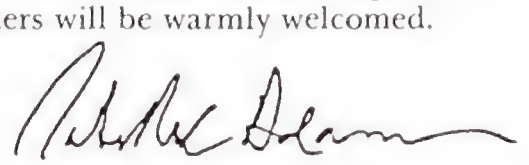
Wholesale transfer of existing facilities seems most unlikely. On the other hand, I do not think it would be unreasonable to adopt a different locational rationale if a proposal came along that raised no question of dividing or moving present collections. The Hirshhorn Museum, the National Museum of African Art, the Arthur M. Sackler Gallery, and now the onset of planning for the Museum of the American Indian all illustrate a pattern of growth largely governed by the addition of new collections. Who knows what exciting new opportunity might attract sufficiently broad support to go forward—not under present circumstances, to be sure, but, say, a decade or more hence?

The Smithsonian's Board of Regents is its governing and policy-making body. Were it to opt for a major new initiative, Congressional approval would then be sought through the authorization and appropriations processes. Authorizing legislation often represents expressions of intent that are not immediately pursued; 15 years elapsed between the authorization of the National Air and Space Museum and the initial appropriation for its construction in 1972. Matching private contributions also may be needed, as they were for our Quadrangle, and as we have just begun to seek for the new American Indian museum. But appropriations are where the rubber really meets the road for ideas to move beyond the discussion stage and into a serious planning process.

Grant the proposition (if only for the moment) that eventually some regional diversification of the Smithsonian is likely. Still, that need not occur only by additions of bricks and mortar under the Institution's direct control. The legislation for the American Indian museum, for example, anticipates extensive training functions, information exchange on collections, assistance with exhibits, and other support activities on behalf of regional and community museums and other native-American organizations. A similar concern for cooperating with—thus strengthening rather than competing with—existing museums has been raised by a committee that the Smithsonian has convened to consider prospects for a new African-American facility. New, Information Age technology can greatly facilitate such "networking."

There are, in short, plenty of cons as well as pros. But it is at least plausible to consider whether the Smithsonian should one day establish some sort of West Coast foothold (beyond the small offices currently maintained in Los Angeles and San Francisco by our Archives of American Art). As the population balance shifts West, such a presence could help in finding better ways for the Smithsonian to track and represent the proliferating expressions of our country's diversity. But budgetary considerations alone are sufficient to suggest that initially this could be at best a very small-scale effort—a listening post, perhaps, or a standing invitation for a dialogue.

These musings are more tentative than most that appear in this column. No new policy is likely either to embody them or set them aside without a lengthy deliberative process that has not even begun. But a concern for the long run, however provisional it must be, is integral to the Smithsonian. Hence the opinions of readers will be warmly welcomed.



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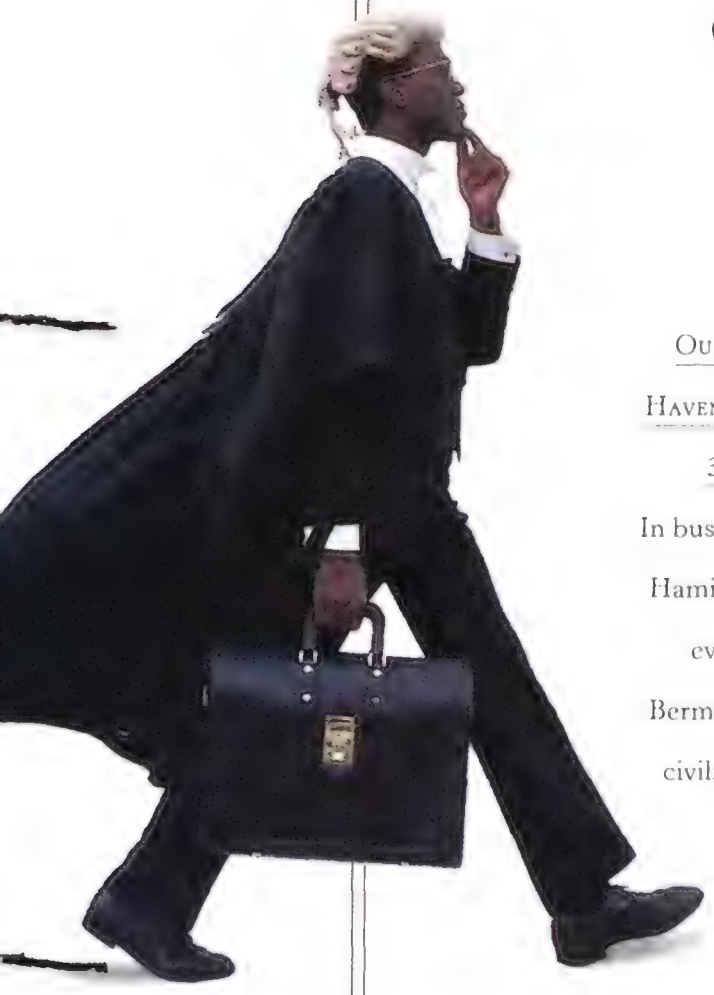

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Letters to the Editor

Why dogs bark

Dear Sir: I shall never see a funnier magazine cover than the one that adorned your January issue. After wiping away the tears of laughter, I studied it more carefully. The dog with its head thrown back (at right center) brought memories of my childhood, 70 years ago. We lived in a small town that relied on a volunteer fire department. A very loud siren above the city hall sounded when a fire occurred. At the first note our two dogs would throw back their heads and let go with soul-rending yowls. Even when the siren stopped they would go right on howling. It fell to me to go out and let them know that the concert was over.
Marc Bedford
Houston, Texas

Dear Sir: The authors appear to have given heredity short shrift. Two breeds of similar origin may be distinctly divided: Samoyeds are frequent barkers; Siberian huskies are not. Fox terriers are ready barkers; Scotties bark very little. Adult gazelle hounds—Salukis, greyhounds, borzois—seldom bark or vocalize in any manner. Trail hounds, such as beagles, are often excessive "talkers."

Border collies, nonbarkers, may work silently alongside other breeds selected for their propensity to bark aggressively and almost continuously. Both traits are required in the overall management of very large masses of sheep. Chows are notoriously silent; Schnauzers are notoriously vocal.

I doubt that any experienced trainer would agree that an excessive barker could not be taught to at least restrict its barking, provided its basic physical and mental requirements were met. Dogs who must spend their lives unnaturally confined in kennels, with at best a minimum amount of socialization and little or no free-ranging exercise, are inevitably bored and frustrated, and respond in the only way they can: they jump, spin and throw themselves about in frenzied activity—and they bark.
Edna M. DuBuis
Santa Barbara

Dear Sir: Since I have been a victim of a canine neighbor, which I can assure you makes that seven-hour creature look like the Sphinx, I was hoping for a remedy! Come on, give me a way to stop this assault on the senses of us defenseless hominids!
Robert V. Spratley
Succasunna, New Jersey

Dear Sir: In Burlington County, New Jersey, we frequently see hot air balloons in spring, summer and fall, but we know they are in the air long before we sight them. Dogs, from horizon to horizon, set up a chorus significantly different from the usual canine bark.
James R. Bird
Medford, New Jersey

Dear Sir: I knew a dog named Lulu, trained by Fred Safely of Cedar Rapids, Iowa, who could speak a number of needed words and consequently gave up barking in favor of talking. When someone entered the house she said "hello"; when she was thirsty she uttered "water." She had distinctive sounds for the words "eat," "out," "milk" and "play." She was able to speak over the telephone, but needed a person to dial the correct number.

As a physiological and comparative psychologist and dog trainer who has observed well over a thousand dogs in many different settings, I find it difficult to entertain a theory based on "canine perpetual adolescence" as an underlying cause of barking. Dogs do not bark "just for the hell of it." At one time at the University of California, Davis, I had the pleasure of carefully observing 400 beagles daily from a 30-foot tower. At no time did I observe dogs barking without apparent canine justification: movements at a distance, strange dogs and other animals, the arrival of food, arguments over bones, and so on.

Dogs are very much like people, neither more nor less adolescent or mature. Barking is socially facilitated, but so is talking when two or more people get together. Similarly, excitement results in barking both in dogs and in humans—witness the noises made at sports stadiums. It is obvious that if humans could not talk they would bark—some incessantly.
Andrew K. Solarz, PhD
Annapolis, Maryland

Dear Sir: I can't believe you used up a whole bunch of pages going on and on about "why dogs bark."

Everybody knows they bark to either wake me up out of a sound sleep or to prevent me from getting to sleep. It's their job.
Mary Lee Kaifer
Bellevue, Washington

Polly Pry

Dear Sir: Polly Pry, the colorful *Denver Post* reporter, must have been buoyed by a slogan carved into the lobby wall of the building then housing the *Post*. "Dedicated in perpetuity to the service of the people, that no good cause shall lack a champion and that evil shall not thrive unopposed."

As to the shooting of the paper's owners, Tammen and Bonfils, the *Post* obviously was the right home for Polly Pry. There is a story that Harry Heye Tammen had a unique method of raising money for his share of start-up funds for the *Denver Post*. As a bartender, he tossed the money paid for drinks to the ceiling. If it stuck, the money belonged to the house. If the money fell to the floor, it belonged to Tammen.
Gordon F. Graham
Vero Beach, Florida

The concierges

Dear Sir: I serve on the advisory board for the American branch of Les Clefs d'Or and have been the keynote speaker for the International Congress of Les Clefs d'Or in both Budapest and Washington, D.C. Your article implies that the European and American concierges are not in harmony and do not respect one another. Nothing could be further from the truth.

American concierges have earned genuine respect from their European colleagues, serve on numerous international committees and have crucial input in decisions addressed by the parent organization.

Humming Bird.

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Ford Thunderbird SC

Have you driven a Ford...lately?

Ford

Although the European organization is almost entirely male, it has admitted two women, one an American, to its international board of directors and numerous American women concierges to its membership. The stars of the industry on both sides of both oceans are dedicated professionals who are generally overworked, understaffed and underpaid for the amount of assistance and goodwill that they extend to their hotel guests.
Linda S. Novey
President, Novey Enterprises
Atlanta

Dear Sir: In Venice, some 20 years ago, after a sumptuous meal at a wonderful restaurant on the island of Torchello, we walked the grounds and saw a magnificent flowering tree. My wife picked up a fallen flower. At our hotel, the Danielli, we asked the concierge if he could identify the flower.

Immediately, he dispatched a bellboy to a museum for the answer. While we waited, the concierge recommended we go to an organ recital that evening. My wife recounted our local organist's opinion of the effect of excess humidity on an organ. Another American guest at the hotel (dressed in a huge black fedora, a flowing black cape and a flamboyant plaid suit) vehemently contradicted her, then departed abruptly. My wife asked the concierge if he knew him. His discreet answer: "I do not know him, although he is a frequent guest. His name is Hammond."

Just then the bellboy returned with the name of the tree.
William C. Beck
Sayre, Pennsylvania

Dear Sir: At the Four Seasons in Ottawa, a businessman from French-speaking Quebec City told the concierge that he needed some *trombones*—perhaps four would be sufficient.

"*Oui, Monsieur.*" The enterprising concierge eventually rounded up four shiny instruments from the National Arts Centre Orchestra. On his return, the businessman was astounded to be presented with them, rather than with the paper clips he had expected.
Alfred Pick
Ottawa

The fun of magic

Dear Sir: The real secrets of the conjuring trade are not to be found in trick hinges, false bottoms and mirrors. While the "magic boxes" of long-vanished magicians of our trade are in themselves fascinating items, solving the illusionary art by discovering hidden aspects of the equipment is very much like taking apart Itzhak Perlman's violin to unravel the mystery of his captivating performance. The secret is in the man and his talent.

One who owns conjuring apparatus is not necessarily a conjurer, any more than the wielder of a scalpel is always a surgeon. Without the wit, dexterity and personality of Blackstone, Burton, Copperfield and the galaxy of magic's other personalities, their "boxes" are nothing more than clever puzzles.
James Randi
Plantation, Florida

Dear Sir: I was stationed at Pope Field, Fort Bragg, North Carolina, during World War II. Harry Blackstone, an impressive man with a full head of snowy white hair, came to the base to entertain the troops.

He did the famous "Dancing Handkerchief" and "Sawing an Assistant in Half" tricks with six soldiers onstage closely watching his every move. The sawing act was so realistic that the soldiers yelled with concern.

His "Magic Light Bulb" trick was every bit as impressive. After turning on the bulb he unscrewed it and passed it around, still lighted, for us to examine.

Then he produced a piece of rope and had soldiers tie his hands behind his back, with the rope wound tightly around his crossed wrists in an X pattern. He freed himself in less than a minute, then asked them what time it was. Each soldier automatically looked at his wrist; not one had his watch. Blackstone then produced all six watches from his coat pocket. No soldier onstage, nor anyone in the audience, had any idea of when or how he could have done it.
Howard Enders
Mobile

Dear Sir: Whenever Thurston came to our city he got in touch with his old schoolmate, my dad. How thrilled we four were when, inviting children to come onstage, he would say "and Mr. Holly's children please come along." I walked right under the lady suspended in air and couldn't see anything holding her up there.
B. Holly Higgins
San Diego

Yiddish literature

Dear Sir: Judges can find in Yiddish just the right word to make a point. The judge in a Georgia criminal case needed to describe the offender's personality. *Chutzpah*, the court said, is the quality enshrined in a man who, having killed both his parents, seeks mercy because he is an orphan.
David Gurnick
Chatsworth, California

Dear Sir: People are usually amazed when Yiddish comes out of my mouth. They don't expect it of my generation, but I owe my knowledge of the language to my Russian grandmother, who spoke it almost exclusively and often retold the unforgettable "Babushka stories."

I have found the language to be eloquent, funny and useful. In my capacity as a recreation leader in nursing homes, the many times that I have bonded with aged Jews is enough justification for its perpetuation.

At our nursery school we begin speaking Hebrew in games, hoping the children will enjoy it and look forward to formal study. A few of us have taken fairy tales and substituted Hebrew words for some English words, added music and produced a cassette and book called *Hebrew in Wonderland*. Some days we say our hellos and goodbyes in French, Spanish, Yiddish, Hebrew and Japanese. Yiddish is still my favorite.
Pat Swartz
Jewish Community Center
White Plains, New York

Seaside, Florida

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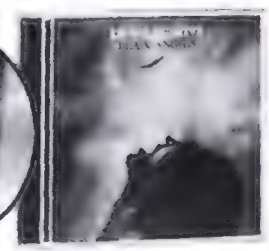

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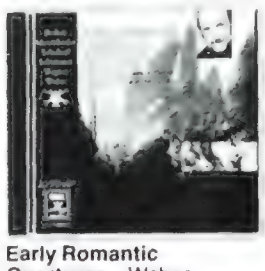

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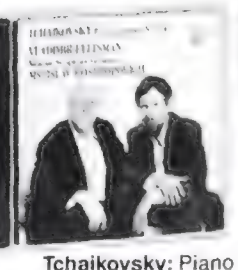

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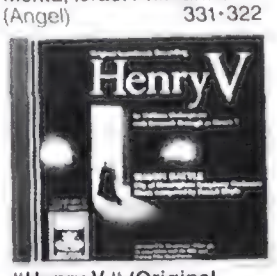

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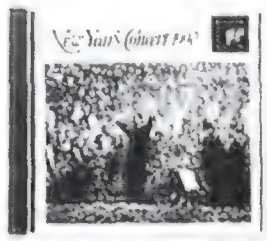

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Around the Mall and beyond

He's tall for a World War II fighter pilot. Over six feet. And he's leaner than most of us who meet at my squadron's reunions. Anyone would pick him for a soldier—the short-cropped hair, the gray military mustache, the way he stands, rising a little slowly these days, then instinctively straightening his back and shoulders to that vertical line that they ram into a plebe's spine at West Point. He was there, all right—USMA class of '36—and West Point will never forget him, nor he it.

Benjamin O. Davis jr. was the first black cadet to graduate in the 20th century. He stuck it out through four years of deliberate mental cruelty, unofficially condoned in order to force his resignation. During that time he underwent what was called "silencing." No one spoke to him except to give an order. No one roomed with him. He was left strictly alone—a single black spot in the long gray line.

Out of his class of 276 cadets, Davis graduated 35th. Even so, the segregated U.S. Army refused his application to its Air Corps until World War II broke out. Then he became the guiding spirit of our first black fliers, and when the time came at last for military integration, he helped show the way. Chuck Yeager, the renowned test pilot, once called him the finest commanding officer he ever served under.

Now, Lt. Gen. Benjamin Davis, USAF (ret.), former Assistant Secretary in the Department of Transportation, is the author of an autobiography just published by Smithsonian Press. He and Agatha, his wife of 54 years, live in a comfortable apartment across the Potomac from Washington, D.C. National Airport lies downriver, and when the wind is southerly, airliners on "final" rumble past the Davises' windows, making just enough noise to stir the juices of an old pilot.

The wind was right for it the day I met the general. As we talked about planes we'd both flown, half a century ago, the muted thunder of today's jets faintly intruded on memories of snarling Allison engines and growling Pratt & Whitneys.

Davis flew P-40s after getting through the course at Tuskegee Army Air Field, where the great racial experiment—an all-black fighter squadron—was painfully carried out. "The first 40s we saw were oil-leaking hulks, rumored to be from China," he told me. If these war-weary relics had worked for Gen. Claire Chennault's "Flying Tigers," the American Volunteer Group, why not for the brand-new 99th Fighter Squadron?

"Once they were fixed up," said Davis, "they suited us fine. But I was baffled by the numbers on the airspeed indicator—they stayed so low!" Like all of us, he'd swallowed the then-current hype about our "400-mile-per-hour" planes. We agreed that his P-40 and my P-39 might have hit 400 with their noses pointed straight down. But cruising speed was more like 180—less if, like me, you wore a belly tank of fuel to get you home after your mission.

"Still," said Davis, "when I flew the 40 in action I was sure it was the best plane ever built. I liked the way it turned, and I had a lot of respect for those six .50-caliber machine guns. But it took a long time before we saw them do any damage to another plane." Usually, when new units arrived at a World War II base, they got a thorough briefing and a flight or two with an old hand during their initial combat missions. Not the 99th. With the squadron formed and Davis in command, the black Tuskegee pilots arrived at a dirt airstrip in North Africa and simply started flying missions. The official attitude was: let 'em sink or swim.

"Fortunately, before our unit was deployed, three old pilots gave us a hand," Davis recalled. "They showed us some of the tricks and how to survive, and told us what we could expect of our P-40s." One of these good Samaritans was Col. Philip Cochran, the "Flip Corkin" of Milton Caniff's great old comic strip, *Terry and the Pirates.*

The newcomers also staged impromptu "combats" with a neighboring squadron that was flying A-36 attack

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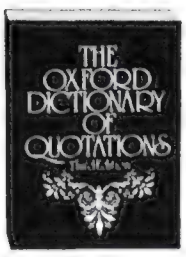

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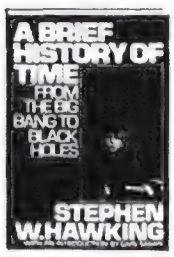

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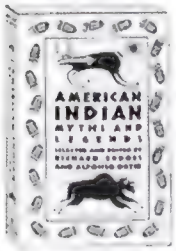

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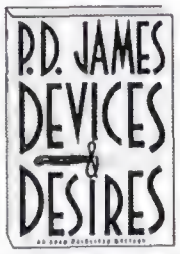

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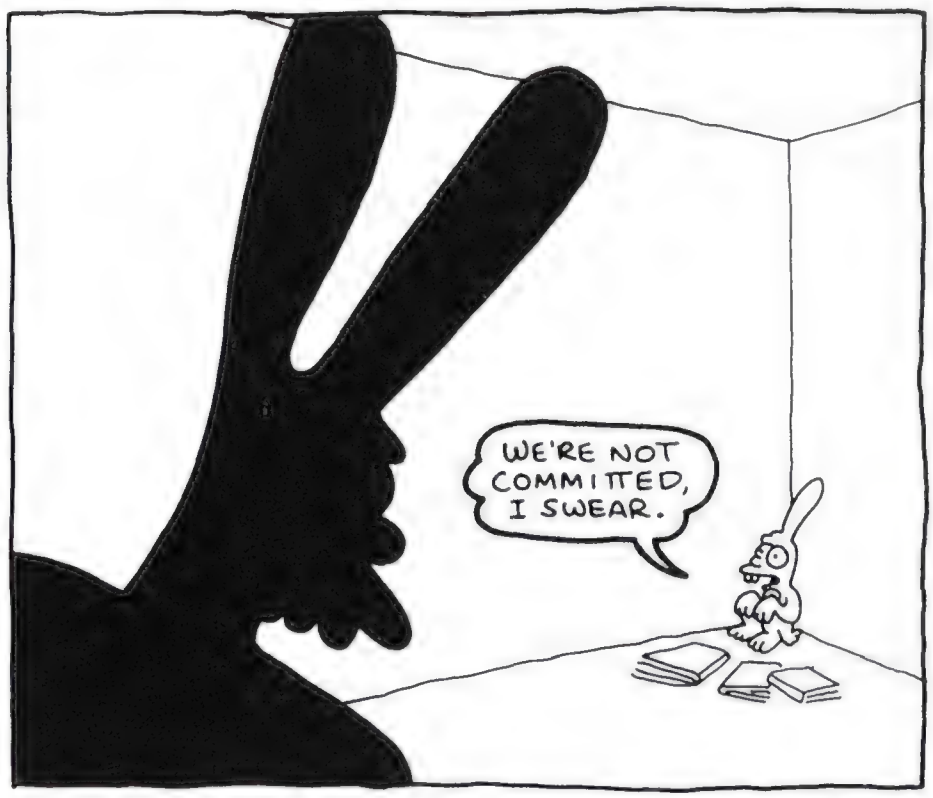

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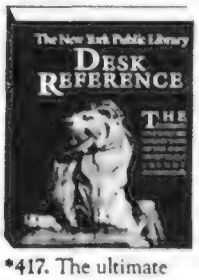

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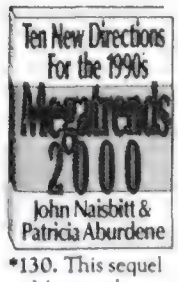

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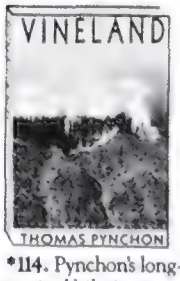

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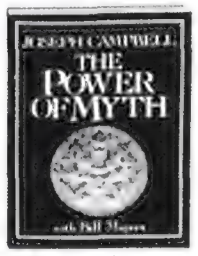

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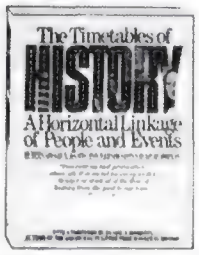

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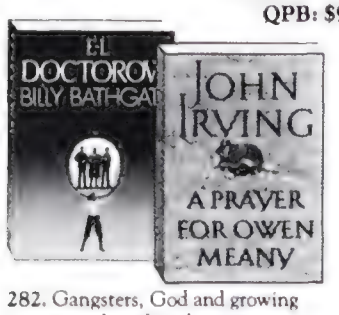

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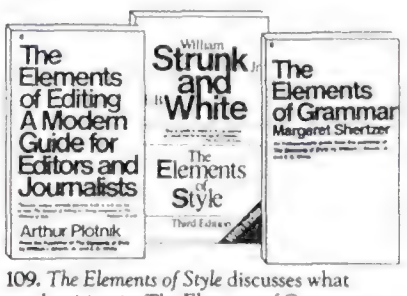

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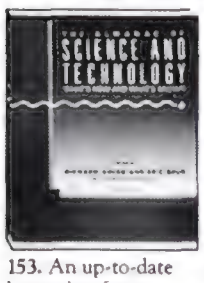

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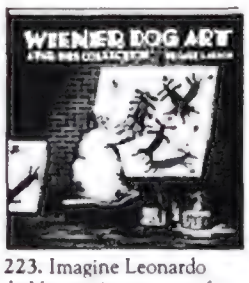

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As C.O. of the 332d Fighter Group from Tuskegee, Ben Davis flew a P-51 on 30 missions in the last ten months of World War II.

planes. For once, the men of the 99th were treated like fellow combat pilots.

Yet their C.O. had to lead them into their first missions without having had a vestige of real combat experience himself. He learned by doing and was fortunate to be flying at a quiet period. "We saw our bombers and British Beaufighters, but no Germans for the first week. I didn't see one for three weeks," said Davis. He was leading the squadron, escorting B-25s, when German FW-190s and Me-109s dove on the bombers. The P-40s turned into the attackers and had what my squadron used to call a nice little soiree. They scored hits, got a 190 and damaged a 109, took two losses, chased the Germans off and finished the mission.

That experience paralleled what I went through on my first New Guinea missions. We seldom saw Japanese planes, but when we did, there were the same flashes of blinding activity, gunsmoke stinging our eyes, tracers striping the air, then suddenly everything quiet again. We'd look around to count the gaps in our formation.

Our record was considered perfectly adequate. But we were white. The 99th, with much the same record in its early days, drew criticism. Everyone seemed to believe that, as Army brass once stated, "The Negro type has not the proper reflexes to make a first-class fighter pilot." So Ben Davis had two wars to fight—one against Hitler's Luftwaffe, one against the prejudice of the U.S. Army Air Forces. Even now, remembering those days, the general's eyes glint in quiet rage at that second, senseless war, forced on him while he was trying to fight the first.

Davis had to return to Washington to save his outfit. He told the brass that the 99th had been well-trained, was undermanned, but was doing just as well as any other P-40 squadron in that theater. Air warfare was seldom as intense elsewhere as it was in the Battle of Britain, and most squadrons in relatively lethargic theaters (like mine) did unspectacular jobs—strafing, dive-bombing, escorting. If no enemy interfered, it was just as well. Our early P-40s and P-39s, beloved though they might be, weren't all that hot compared with the planes that opposed them.

Uncertain as to whether his stateside defense of the 99th had made a difference, Davis returned to the Mediterranean, this time as commander of the all-black 332d Fighter Group. Meanwhile, over Anzio, Italy, his former squadron had clobbered 12 German fighters and claimed two probables and a number of damaged FWs in just two days. A few days after that, the results of an AAF study of all the Mediterranean fighter squadrons, including the 99th, completely bore out what Davis had said in Washington. The blacks got new planes—first, the seven-ton, 2,000-horsepower P-47 (the famous "Jug"); then, the beautiful P-51, the Mustang, generally conceded to be World War II's finest all-around fighter. They were in the war to stay.

Davis loved the big P-47: "A great plane—gave you a sense of security." I agreed, remembering when my squadron had checked out in Jugs. One of my friends, accustomed to being crammed into the dicey little P-39, sprawled out in this new, expansive cockpit and said, "At last! I got me a Cadillac!"

"We only flew them for a month," said Davis. "We were sorry to lose them, but we knew we were getting 51s instead." My squadron, too, was reequipped with the Mustang, but not until after I'd been sent home. Missing out on it gave me a twinge of insane regret at having left New Guinea.

By July 1944, Davis was a full colonel. The 332d Fighter Group—four all-black P-51 squadrons—had the range to fly long escort missions and the altitude to keep well above the B-17s and 24s: "We'd cover the bombers with a squadron on each flank, one above . . ." At last he was using his hands. I'd been waiting for them to open, palm down, and swing, tilted, to the side, up, down, showing the bank, turn and climb of planes in formation. Fighter pilots are struck dumb if they can't use their hands.

Now our conversation blossomed into real "hangar flying"—how, on those long missions, your buttocks would get creased by the folded rubber dinghy that you sat on (part of your parachute pack); how enemy planes looked to you in the distance, how you handled them, holding them off, holding your position too.

"We could always spot the Germans because we knew where to look for them. Anyway, they were unmistakable . . ."

"So were the Japanese. They looked slender and gleamed in the sun . . ."

"The 109s and 190s would bore right into the bombers, always aggressive . . ."

"The Zekes and Oscars would try to get us to attack, to pull us away so . . ."

". . . So another could hit from the other side. Same with us. My boys would give me flak when I wouldn't let them chase off to rack up their scores . . ."

And so on. A couple of times the

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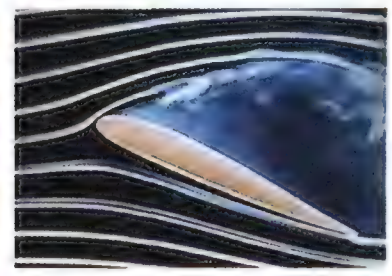

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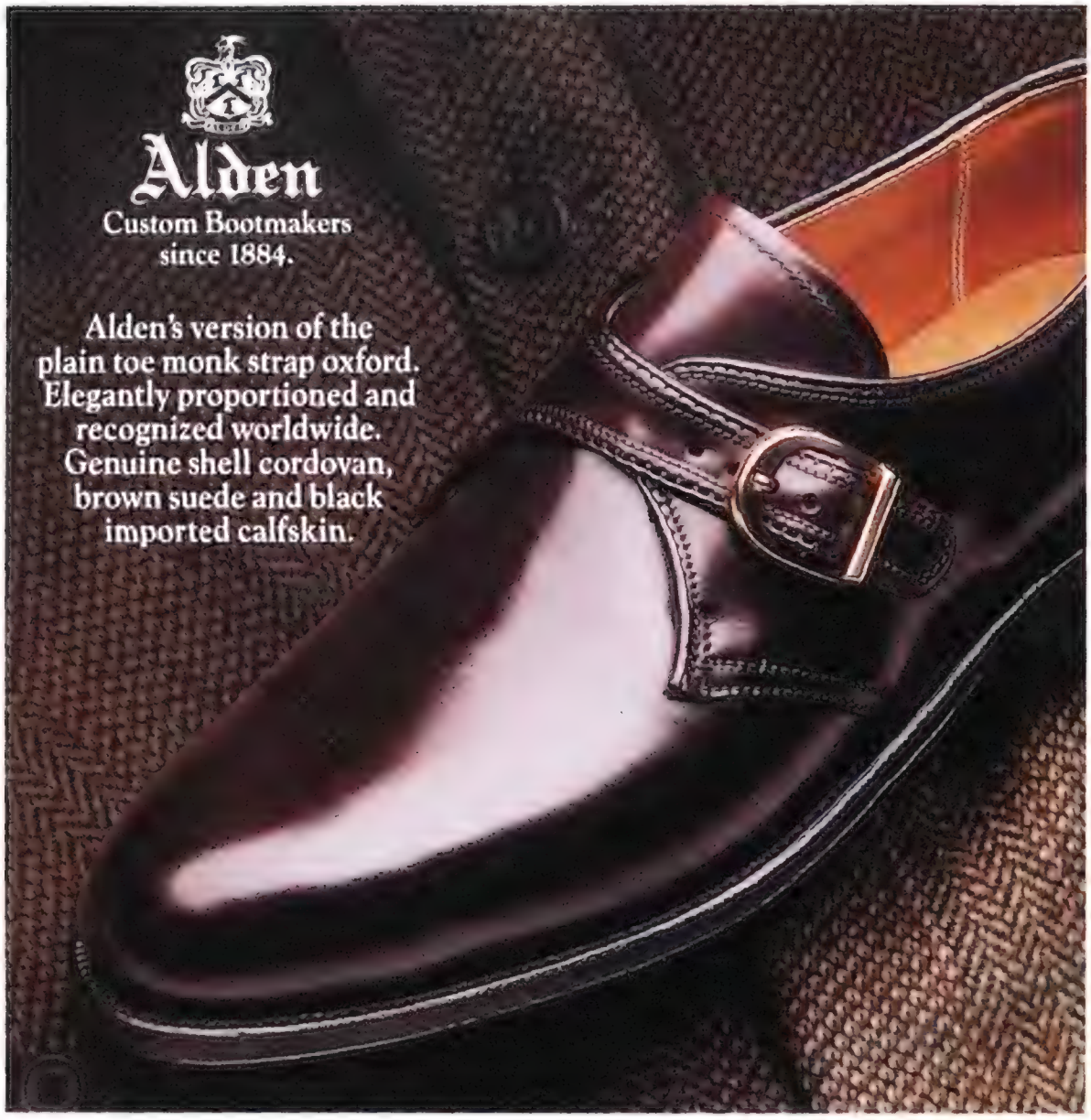

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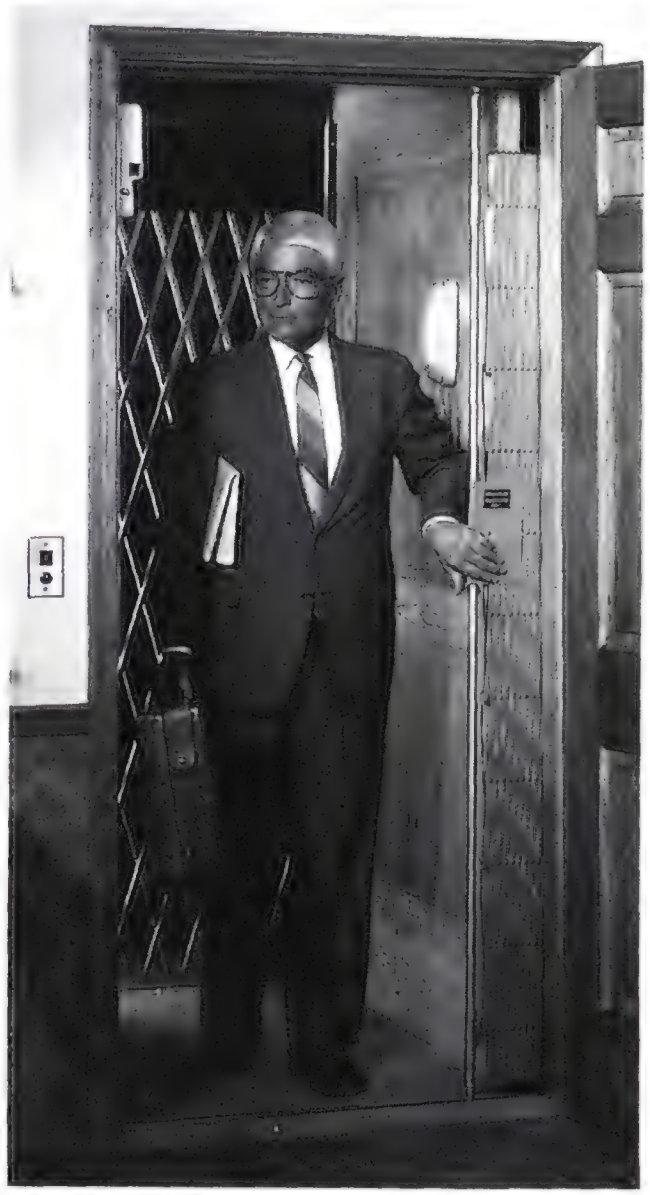

332d Group met up with the famous Messerschmitt 262, the world's first jet plane to get into combat. Said Davis, "That was the toughest thing we faced in the air—we tried to get at it any way it would let us." They managed to get three. The Germans flew tough right up to the end. In April '45, shortly before V-E Day, the general's outfit caught nine Germans in a traffic pattern. "Our boys shot down all nine," he said slowly. He paused, then went on reluctantly, "They were on a training flight."

War's end left the 332d with a cherished record. Though heavy flak sometimes tore holes in the great formations of B-17s and B-24s that they'd escorted, not a single bomber had fallen to enemy fighters when the 332d flew cover.

Integration soon came to the peacetime Armed Forces. Davis thought it would be a smooth process, and he was right. In the new USAF, blacks and whites were assigned according to military specialties, not race. And lately when people ask him about a disproportionate number of blacks serving in the Persian Gulf, he's quick to remind us that for a long time the Armed Forces was one of the few places where blacks were guaranteed equality. "Black people recognize that their performance in the Gulf will be a benefit to them and to all others in the United States."

President Nixon put Davis on a board of visitors for the Air Force Academy. With an ironic grin he recalled, "We had to rule on the question of allowing women to go to the Academy."

Davis also visited West Point—with mixed feelings. The memories were hard, but the sight of black faces in the ranks of cadets gave him a big moment.

Perhaps his proudest moment of all, he told me, came when he dropped in at the U.S. Air Force Museum in Dayton, Ohio, and got talking to some veteran bomber crews from the Italian theater, who were having a reunion. "They remembered the planes with red tails—our planes. They remembered that when the red tails were escorting them, they knew they'd be all right."

Another jet groaned by outside the Davises' window, and we stopped talking at last. We both got up stiffly. He has a bit of arthritis. The general signed his book for me. Then he walked me out to the hall, and we said goodbye. By then he was standing tall. A big man. A big man in every way.

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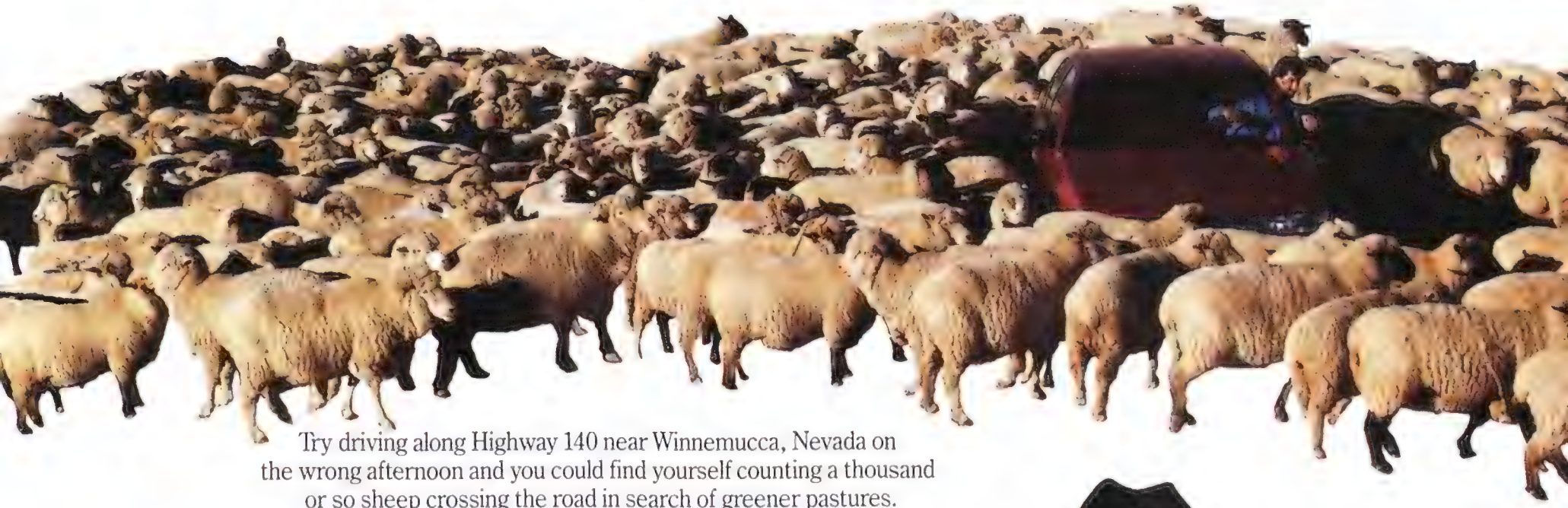

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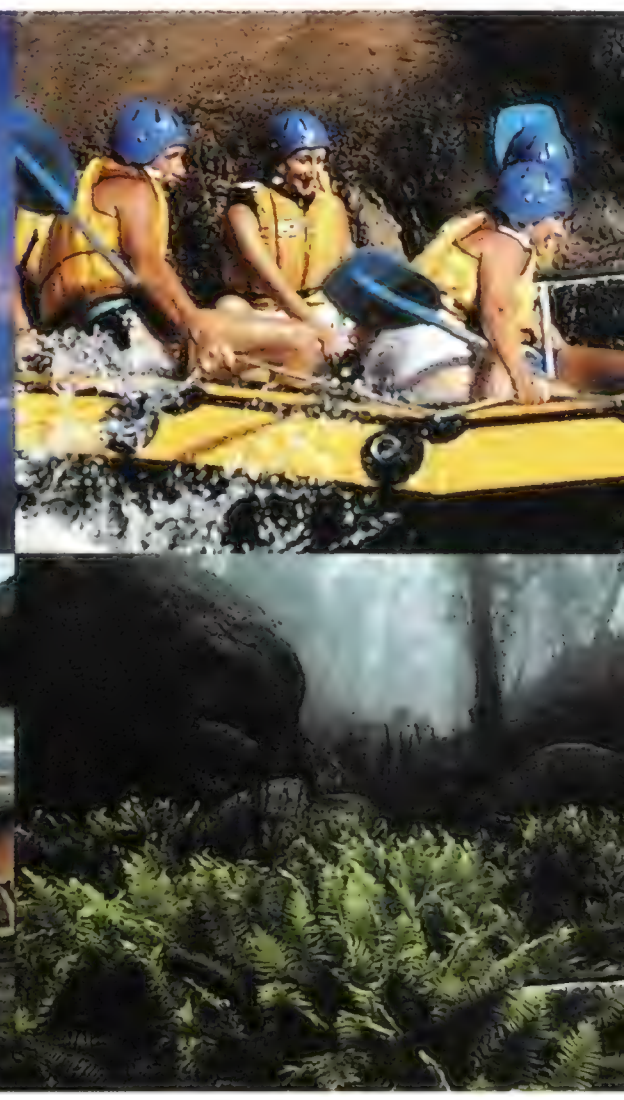

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A free-falling parasitic wasp plants her egg in the unwilling flesh of an alfalfa weevil grub, having jabbed it with her drill-like ovipositor.

In an alfalfa field's underworld, a wasp, a weevil and a farmer show a young scientist a thing or two

In the winter of 1970, motivated by the exuberance of inexperience, not to mention the commandments of the registrar, I took my science south to a dairy farm. It was time to finish the research and write the dissertation for my PhD. I was studying the life cycle of a small wasp that preys on the larvae of the alfalfa weevil, and my task was to understand how the wasp's environment affected its life cycle—how temperature, humidity and day length controlled its growth and triggered its hibernation. That meant I had to record the conditions down in the alfalfa itself. That in turn meant I had to have an alfalfa field, and *that* meant that I had to have an alfalfa farmer to provide the field.

Inquiries were made through the farm adviser of Salinas County, California, and a farmer named John DaOro (John of Gold, in the Italian-Swiss dialect the DaOros spoke) agreed to tolerate my research activities, and watch over my equipment shelter. And so, on a glorious, green day in February following a storm, I piled insect nets and other paraphernalia into a university station wagon and drove the 125 miles from Berkeley to the town of Gonzales. I reveled in the succulent, emerald hills as I drove, the splendor of the California winter, and I pondered how I would deal with my farmer.

DaOro was waiting by the side of a field as I drove up. The instant I set eyes upon him I sensed that things would not be as I had imagined. Instead of the stolid, plodding peasant that the academic perceives the farmer to be, DaOro looked at me with an alert, quizzical expression. He introduced himself and straightaway wanted to know about my research. We fell into a wide-ranging discussion of life, weather, politics, agriculture. We talked about the psychology of immigration, animal training, alfalfa culture, and morality as a practical psychological mechanism. Then he wanted to know about my equipment—what was this black recording device? that glass-enclosed instrument? He asked about the insects, what kind was I studying, what was I trying to find out.

"Hey, Bill, why are you doing all this?"

DaOro has just stepped onto dangerous ground. Dissertation research is the whole world to a graduate student. Ask him to explain that world and you are in for an exhausting experience. I explain about all the creatures that live in a field of alfalfa—all one thousand-plus species counted so far. I cannot help myself. I open the mental textbooks I've had to memorize and the words gush out. Not just facts about insects, but facts about all the other arthropods—the arachnids, the isopods, the diplopods, the chilopods, the pauropods—that share the field.

And then he wanted me to show him what they looked like:

"Have you actually *seen* these things?"

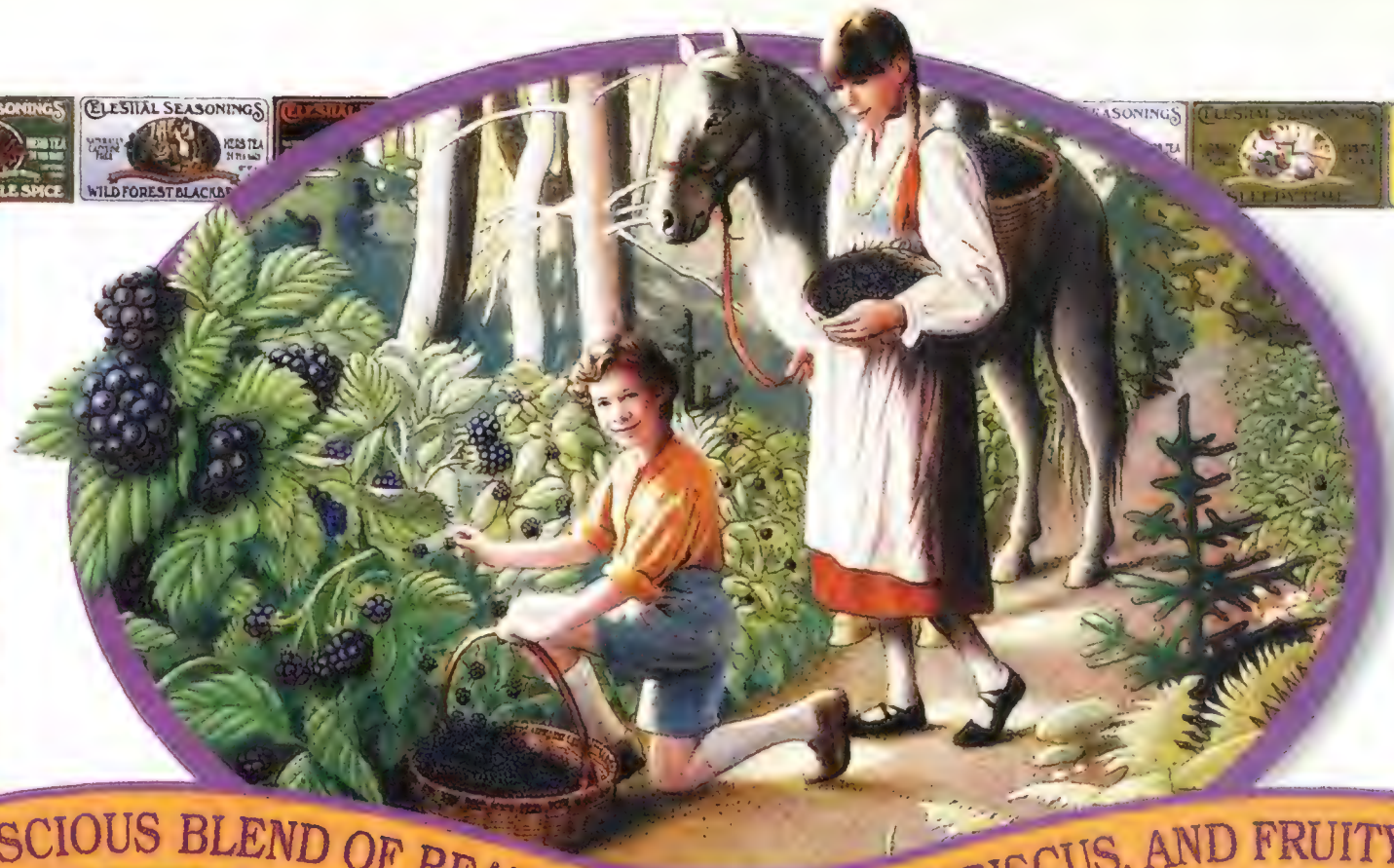
"Well . . . not all. But *most* of them."

I did not understand at the time how strong the classroom accent is to the nonacademic. What followed was in some ways the pivot point of my academic career, the lesson of John of Gold. I can relive it still, as clear before my mind's eye as was the event itself.

"Come on," says John, "I want to see these things," and he turns and motions me to follow. We wade out into the thick, dense green. The plants are at their peak—about a foot and a half tall with succulent, crisp stems. They rustle like tossed lettuce as our boots tear through. A hundred yards from the road, DaOro suggests we stop; this is about as pure as alfalfa gets.

The sun is still shining and the cloud galleons are still sailing past. The wind gusts and buffets, and after several hours of standing in the open, we are chilled. Our jackets are zipped up to our chins. I wouldn't mind walking more, just to drive back the shivers.

I bend over and push the plants apart, waiting for the first insect to catch my eye.



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We had just finished dinner so I poured a BIG CUP *and let the steam warm my face as I sipped my first sip and* s l i p p e d *s l o w l y a w a y from him and the little kitchen table into a lush forest wood, because* **I** *was a* **gypsy** *and* **I** *was queen of a band of* **wild forest** *gypsies with whom I ate* ***blackberries*** *that* l i n g e r e d *in the corner of my* smile *as I sank into an orange peel sunset that* melted *into a blackberry night and then, one of the many* **WILD** *forest gypsies said, "*HONEY*, isn't it your turn to do dishes?"*

A DIFFERENT CUP OF TEA

"What are you doing, Bill?"

"Looking for insects. You wanted to see insects, didn't you?"

"Come on, Bill, you can't look for insects like that. Do it like this . . ."

DaOro drops to all fours, rolls onto his left side and disappears. A half-hour ago I would have smiled patronizingly at a suggestion like this. We don't learn such techniques in graduate work, but somehow it makes sense. Then I am on all fours, and then I am lying on my right side, and then the two of us are lying head-to-head in the alfalfa.

We find ourselves in an alternate reality. There is no wind down here, only air. It is balmy, about 75 degrees F; it feels as though we have lowered ourselves into warm water. I stick my head up for a moment to make sure I am still planted in reality, and there, just as before is the alfalfa sea stretching flat and pure. The wind is still blasting, astringent and cold, no more than two feet above us. But as I lower my head again, I descend into the Amazon basin.

For a moment I am disoriented. My eyes strain to focus on stems and leaves and blossoms a foot or two in front of my face. At first they are simply a green blur. Then details begin to form. The resemblance to a rain forest is striking in several ways. Each plant grows from the ground in a long, straight stem. About a foot above the surface the stem branches out, ending in clusters of leaves; leaves and stems weave a canopy with the stems and leaves of all the nearby plants.

All I see, however, is alfalfa. I know animal life exists, but I don't see any.

"Hey, Bill, what's this?"

DaOro points at something on the soft, tender tissue just below a bud. It is the shape of an egg, but tiny, about one-eighth inch long. Pale green and translucent, like a little grape, it blends perfectly with its surroundings. Two pipes protrude like antiaircraft guns from its rump; two long, graceful antennae arch back from its head, over its back; and two bulbous eyes stare in all directions like hemispheric gun turrets. A tubular snout, projecting from the bottom of its face, appears to be embedded in the plant tissue between its legs.

"That's a pea aphid, *Acyrthosiphon pisum*."

DaOro leans closer. "So that's what they look like up close. Hey, they're really neat! Two years ago we had to spray for them, but I had no idea they looked like this."

Suddenly another aphid seems to materialize just above the first, and another just below, and others to each side. And as if a new slide has been projected on a screen, the mind suddenly grasps a new reality: the end of the branch is clothed in pea aphids! They look like an ankle warmer of furry green.

"Look at the little ones!" says DaOro.

This is something I am familiar with because my duties have included rearing aphids in the insectary to breed aphid parasites. I explain to DaOro that most aphids bear live young during most of the breeding season and that all are female. Within the week the young females are producing their own, and if you prepare mature aphids for microscopic examination, you can sometimes see embryos forming. This is parthenogenesis, a reproductive strategy that, by eliminating courtship and mating, elevates the rate of reproduction to astro-

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nomical levels. Aphids lie at the base of the food chain to provide food for countless predators, and their strategy is to offset predatory losses with a deluge of newborn.

Even as I talk, DaOro is looking closer still and we both react to the aphids at the same time. For here and there in this protoplasmic cluster are aphids with their rumps raised high into the air, emerging from which are tiny, tiny babies. They look and move exactly like minuscule calves. They are coming into the world headfirst. One of them has actually freed itself from its maternal bond and is doddering about on unsteady legs.

"What's that brown thing with the long nose?"

"Aha! An alfalfa weevil. That's one of the things I'll be studying."

"Look at that snout! What's it used for? It must be used for something," says DaOro.

The weevil's snout amounts to about one-third of its body length and looks like a very long nose. Two little, clublike antennae protrude on each side just before the snout's tip and, from our gross perspective, look like a pair of spectacles. At the snout's tip are jaws, enabling it to operate like a drill. The weevil bores through the walls of alfalfa stems to lay clusters of orange-yellow eggs in the hollow interior. It also bores into the buds and gets the freshest, tenderest cuts of botanical flesh.

Gradually we forget our conscious selves and merge with a feeling of the field. It is a parallel universe, and it swarms with living things. Everywhere we look, creatures stare back, little gargoyles and griffins and goblins. Spittle bugs encased in pods of foam; buffalo treehoppers with huge spines jutting from each shoulder, eyes on the sides of a wide green head; tiny black pirate bugs, their white wings folded like napkins across their backs; big-eyed bugs like miniature frogs; caterpillars with black bodies and yellow stripes; green inchworms that measure as they walk; spiders lurking in their silken tunnels, which open out onto their sinister cloth verandas—they are everywhere, the tortured imagination of Hieronymus Bosch made manifest, sitting impassively on the leaves, clinging warily to the undersides of leaves, wedged into axils where the branches meet.

Looking like a miniature red helmet, a lady beetle crawls along a branch, over and under the leaves, searching for pea aphids. Another red helmet is pinning a victim on its back; green legs flail the air as the beetle eats.

Crawling up another plant is a lacewing larva—an alien creature indeed. About a quarter-inch long, its shape suggests an alligator, scaly lumps lining its back. But instead of a snout, it has a pair of needle-sharp pincers, which extend forward at least one-quarter of its body length. This monster is foraging for aphids, mites, insect eggs—anything nontoxic that it can overpower. It scurries blindly, groping its way, and finally runs into the aphid colony. Without pausing it grabs an aphid in its pincers, hoists it into the air and begins to suck the life out of its body. This larva, when it eventually hatches into an adult, will become the exquisite green lacewing, a fragile, nectar-and-pollen-seeking insect with cellophane wings and golden eyes.

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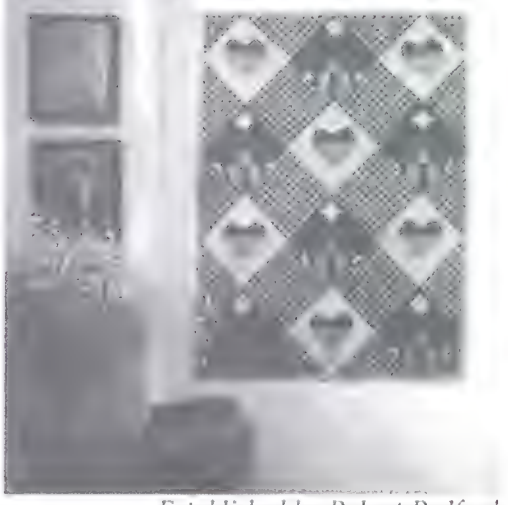

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groping up the alfalfa stem: a blind, green maggot, which tapers from a wide, blunt rear to a flexible, headless point. It grasps the plant with an adhesive on its rump. After each hike forward, this creature gropes from side to side like someone feeling around in the dark for a dropped coin. It, too, encounters the colony. The aphids seem to sense its arrival. They thrust their abdomens into the air and wag back and forth. Globules of a white, viscous fluid seem to inflate like balloons on the ends of the two tailpipes with which each aphid is equipped. This is a noxious liquid that repels parasitic wasps but has no effect on this headless horror. The maggot strikes like a snake: two hooks emerge from its throat, then the slender, pointed front end plucks a big, succulent aphid from the group, hoists it high and, like the lacewing larva, sucks the fluids from its prey. This grotesque predator will transform into the sublime creature known as a hover fly, which hangs motionless in the air for minutes at a time, flaunting its red eyes and black-and-yellow body.

Then I see something special. I nudge DaOro and point.

"There it is, John—my guy, without which I will not become a scientist."

DaOro peers at a creature the size of a mosquito that is clearly a wasp. It is standing with trancelike stillness on a bud of alfalfa. Only its antennae move, waving back and forth in slow motion. It is *Bathyplectes curculionis*, a healthy young female, and she is a beauty. Black and shiny as volcanic glass, she wears yellow sleeves on each of her six legs, and on the underside of her abdomen she sports a yellow apron. Yellow on black; it is a stunning combination.

"What is that thing sticking from its rear?" asks DaOro in a hushed voice.

"The ovipositor," I whisper back, "the egg-layer." It attaches under the tip of her abdomen and extends backward one-third of her body length, curving slightly upward like the saber it is. I explain, taking care not to alarm her with my breath, that what we see is actually the scabbard, for the blade itself is sheathed inside.

She stirs. She flips her wings nervously, then sets off at a quick trot to hunt. Holding her antennae forward, the tips bowed down, she palpates the plant as she scurries along, divining her quarry's scent. Out one branch, over the termi-

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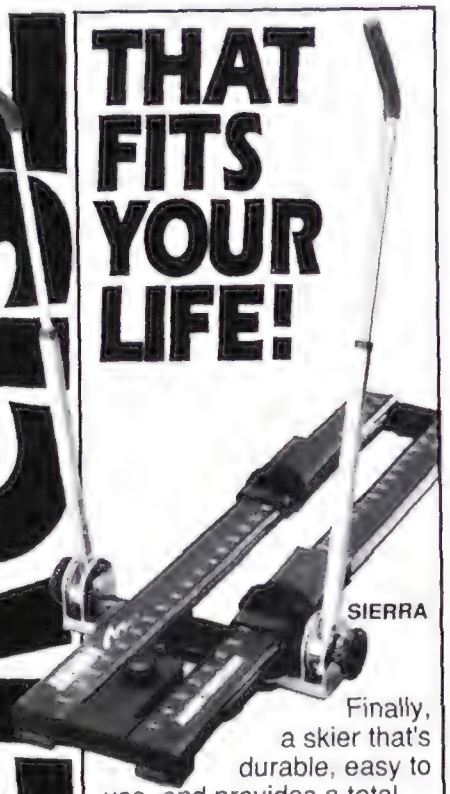

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nal, back to the main trunk, touching, feeling, smelling. Up along the main trunk, out along another branch.

Suddenly the wasp senses something. Her antennae probe urgently between the surfaces of the stem and the immature leaves wrapped around the terminal bud. Then she stands up to her full height on all six legs, arches her abdomen and swings the ovipositor down into position; the blade emerges from the end of the sheath, and she jabs repeatedly between the leaves of the bud.

"It has taste buds on the end!" I hiss at DaOro. He nods. We both strain to see the object of her attentions, but at first we cannot. Then we spot it, wedged between the leaf and the bud: a succulent green grub with a brown head, a yellow stripe running down its quarter-inch length. It is a fourth-instar larva of the alfalfa weevil, meaning it has shed its skin three times and is in the fourth and final growth period.

The point of the jabbing ovipositor comes closer, closer. The larva senses the danger and begins to wriggle free from the bud. Rising up, it waves its head and body wildly and blindly, trying to strike the foe. Without hesitation the wasp moves in, stabbing like a sewing machine in the larva's direction. Finally its stinger touches fat green flesh. With a great abdominal heave, the wasp drives the blade deep into the larva's body, just behind the head.

The larva convulses; its entire body lashes back and forth. Each contortion tosses the wasp by its stinger, bashing its body against leaves, stems, buds. The pair wrestle and writhe, the larval weevil fighting for its life, the wasp for its genes' future. But the stinger remains in place while a soft, malleable egg emerges from the stinger shaft. Bathed in the larva's colorless blood and massaged by coiling viscera, the egg assumes the natural form of a stout sausage. It awaits its hatching several days hence.

Her mission accomplished, the wasp jerks her stinger from the larva's neck. A large drop of digestive fluid bubbles from the grub's mouth and it crawls off, stopping every few seconds to lash out in anger, raging in its subrational way against the devil-seed planted in a womb of its own tissues.

The wasp now celebrates. She draws herself up to full height, flexes her wings and folds them over her back, drops her antennae and stands there, twitching. Finally calmed, she turns to the task of personal hygiene. Standing on her first two pairs of legs, she reaches over her back with her hind legs and strokes backward time and again, combing dirt and other debris from her wings, then from her head and its antennae. Now she stands on her middle and hind legs and reaches up with her forelegs. She grasps one antenna between her "wrist" and a special thumb-like grooming spine. The grip forms a perfectly shaped opening through which she now draws the antenna, lifting up at the base like a fisherman straining against a fish. After each antenna is thoroughly scraped she rubs her face and head, reaching back and stroking downward. The motion is identical to the motion of a grooming cat. When she has finished, she walks quickly to the top of the bud, tenses, raises her wings, springs into dizzy, uncontrolled flight and disappears among the stems and leaves.

DaOro's eyes and mine meet and we know that the enchantment has come to an end. Stiffly we get up on all fours, then stand slowly upright. Higher and higher we rise, and as we rise the jungle closes over, transformed once again into a green field. We continue to rise until we stand fully erect, into the wind, into the jet stream of our own dimension.

We trudge slowly across the field. I pack my gear and thank DaOro for his time. I do not thank him for the most stimulating conversation I have had in months, nor do I mention the natural élan with which he has punctured my arrogance. Besides, I know that he knows anyway. We wave, I climb into the station wagon, turn north onto Highway 101 and drive into the wind. As the evening comes, the clouds grow darker and sail closer together, the fields grow blacker, and the wind rushes in faster from the sea.

I will go back to Berkeley, and I will endure the intellectual gamut of the graduate curriculum. I will study my little *Bathyplectes* in the lab, caging her in plastic boxes, subjecting her to different combinations of day length and temperature, and I will present the findings in the proper scientific format. But somehow the grail of science is no longer so important.

William Jordan

Adapted from the author's book *Divorce Among the Gulls*, published this month by North Point Press.

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HOW HUMAN

PEOPLE SMILE WHEN THEY'RE HAPPY, FROWN WHEN THEY'RE SAD. DO DOGS?

Yes. And no. A dog's expression and body language is largely determined by how important he feels around other dogs or his owner.

Dogs are very concerned about their 'social rank'. Like humans, they love being a big shot and hate being ignored or reprimanded.

So when a dog looks like he's smiling (left-hand picture), it means he's happy and excited to see you. From experience he knows you're about to give him a giant hug.

The half-smile (middle picture) is his way of saying, "Hey, I've been a good dog...pet me...pay attention to me...Pleeease?"

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Meanwhile he is thinking that you're a dog.

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This is why he likes to sleep on your bed—apart from the fact that it's warm, soft and dry. Every dog instinctively wants to sleep close to the leader of the pack and in your house, that's you.

But "leader of the pack" has a very specific meaning to a dog. It's the one who must provide the pack with its food.

IS YOUR DOG?

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You've heard that people should eat less meat and more fruit, vegetables, fiber, and grains.

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TREAT HIM LIKE A HUMAN,
FEED HIM LIKE A DOG.

By James R. Chiles

There are new signs of energy out in the Kansas oil patch

Roughneck Ron Paxson (opposite) moves piece of equipment with chain hoist, as he works on drilling rig seen above, at top. The rig and a well already pumping oil, at bottom, are on the Wieland farm in Kansas.

Spurred by the crisis in the Persian Gulf, independent operators try to bring our domestic oilfields back into production

Driving me across the flat, windblown northwest Kansas landscape, Larry Childress is looking for oil. It is three months since he put his finger down on a map of this oil patch, picking the spot to drill, and now the rig is about to start operating.

We top a rise and I can see a white derrick. Another moment of driving, and I can see several machinery sheds that huddle around the base of the derrick, like barges or tugboats.

In fact, the rig soon comes to remind me of a tramp freighter. Its natural home is out under the big sky, and it moves from job to job with no fixed course. It operates through the nights, year-round, observing no weekends. Years of sunlight have faded the red danger sign on the crew's shed, or "doghouse," to white; the decking sags under the weight of falling steel; grease and rust cake the substructure under the drilling platform. The only shiny places I see are steel handles worn pewter-bright with constant use. But beneath the wear and grit, the frame is sturdy enough to pull 130,000 pounds of drill pipe 6,500 feet from the bottom of a hole; its twin diesel engines have enough power to drive a rotary bit through a foot of rock every one-half to five minutes, depending on the rock's density.

Rigs like this have dotted this landscape through

Photographs by Layne Kennedy

There's new energy in the oil patch

Larry Childress waits for results of a drillstem test that will indicate the presence or absence of oil.

decades of boom and bust, with wild swings in oil prices—the jumps and drops occurring almost daily since Iraq's invasion of Kuwait in August 1990.

The highs and lows are clear enough in the nation's midsection, a mature oil-producing district that includes Kansas, Colorado, Oklahoma and parts of Nebraska. The number of wells drilled here dropped from about 24,000 during the boom year of 1981 to 6,000 eight years later.

Driving into the Kansas oil patch now is like riding a time machine back to the Great Depression of the 1930s. It's been five years of layoffs and of equipment beaten down to the essentials. Drilling activity is up slightly since the beginning of the war in the Persian Gulf—but not much. The memories of the last oil rush, 1980 to 1985, and the bankruptcies that followed close behind are too fresh.

Larry Childress, 43, is an independent operator, or oil producer, who lasted through the difficult times and wonders what the next year will bring. He works out of Springfield, Missouri, but his playing field is a 30-mile radius surrounding Oakley, in the northwest corner of Kansas. I first meet him in late October at a truck stop near Oakley. He's of medium height, has a quick, joyous laugh, wears pointy cowboy boots, and has reddish eyebrows and a mustache. Raised on a dairy farm in Missouri and trained in geophysical engineering at the Missouri School of Mines, he served as a reconnaissance pilot in Vietnam. After the war he worked for the U.S. Bureau of Land Management, then as an environmental engineer for the state of Missouri. He quit his government job in 1980, during the oil boom. He spent a year doing geological research and gathering leases, shaving expenses by sleeping in his car and bathing in cattle tanks.

"I'd burned up $450,000 in drilling money"

As a waitress stops by to top off Childress' iced tea, I notice that Mitten's Truck Stop appears to be a good place to strike small-town deals in cattle, oil and trucking. Every booth has a telephone on the wall. Childress spends several hours a day here at a favorite table, back behind the waitress station, and knows the menu by number. He dickers with landowners and chats with contractors, but mostly he waits.

"I had burned up $450,000 in drilling money by the time I struck oil in 1983," he tells me. "I was scared to death before that well came in." Like many who hunt for minerals in high-risk ventures, Childress believes in luck. He tells me that his wife, Penny, drove out from Missouri to bring him a "lucky quilt" during the drilling of his first producer.

Around Oakley he's known as an oilman who is diligent to the point of fussiness. Many operators are

Water hose washes oil and mud off pipe coming out of the hole; mud sock (top) serves to cover pipe joints.

Paxson, in stickered hard hat, loads one section of pipe into another; pull of chain will screw them together.

content to delegate a hired geologist to watch the well and report back by phone, but Childress always drives out from Missouri to watch over his geologist's shoulder. He says it allows him to develop a mental picture of each well and its potential. It's homework against that frightening hour, tolled at the bottom of each hole, when he must decide whether to abandon the project or risk the extra $80,000 to $100,000 that bringing a well to production requires.

While drilling 75 wells he's located several oilfields, a couple of them substantial. Some day he'd like to find a half-million-barrel field. "You can retire on a field like that," Childress says, adding that he'd probably continue looking for more oil anyway. "I'm doing just exactly what I want to do."

Childress brings no more than a briefcase and a Ford Bronco to the oil patch. As with most small, independent operators, he owns no drilling equipment himself. His job is to hunt down a good geological prospect, talk owners into leasing him the mineral rights, persuade investors to fund the drilling, and hire the oilfield contractors he needs. Where oil comes up, his company, Petex Inc., manages the well, takes a portion of the revenue and pays investors according to the percentage they own. His overall record is good—one producer for every two and a half dry holes—but of his six most recent wells in 1990, he's had to plug and abandon five as too poor to justify attempts at production. Now he needs to find a good producer to hearten his investors back in Missouri.

He's putting his hopes on a hole under way labeled "Wieland No. 4," meaning that it's the fourth well he's started in this 140-acre wheatfield farmed by a family named Wieland. It's not a wildcat well because two producing wells are close by. But this spot is also considerably less than a sure thing, since two other holes he's drilled within a quarter-mile to the north proved dry. Childress is aiming off to the south this time.

He started the monthlong drilling process from home. He hired a surveyor first, to stake the exact spot that Childress had specified on a map and to establish its surface elevation. Next, a dozer carved a track south from the nearest road, leveled a pad and scraped out pits for water storage and mud circulation. Then a drilling contractor moved in with a dozen semitrailer-loads of equipment, including a 104-foot derrick. This company, Blue Goose Drilling, agreed to punch the hole for $6 a foot. Blue Goose has been drilling for four days now, and the bit is nearing a depth of 4,000 feet, where the potential pay zones begin.

James Chiles is a freelance writer and frequent contributor to SMITHSONIAN. *His last article was on science fairs, in the September 1990 issue.*

I tag along as Childress leaves the truck stop café to visit the rig. He knows the country well, having made at least 80 trips out from Missouri. Part of his job during each visit is to drive the back roads, checking for new drilling activity and making sure that his wells are pumping income. The land is treeless and rolling, split by ravines every mile or so, and dotted by abandoned farmhouses left to crumple under snow and wind. Childress describes the West Kansas wind; sometimes the tumbleweeds pile in great heaps against fences and catch so much wind they bend the steel posts down to the ground. "It's lonely country," he says. "I always get a strong feeling of nostalgia when I'm out here—even sadness." He remarks that many of the deed records show sheriff's sales from foreclosures during the Depression.

Bailing a roughneck out of jail

Beginning Friday evening, I get to know the crew that mans the shift from 2:30 to 10:30 P.M. There is a foreman, called a driller, and three roughnecks. Roy Lindsey, 54, even-tempered and methodical, is the driller. His only badges of authority are his thinning hair and a mouth turned slightly down at the corners. He recruits a crew of roughnecks and makes sure they get to the rig every day, even if it means bailing one out of jail. If something goes wrong at a critical time, the rig's owners are a three-hour drive away, so Lindsey's judgment is the best hope of saving the hole. He fills out the rig's work logs for his shift and runs the machinery controls on the drilling floor. He brings 35 years of oilfield experience; this is good, because of all the crew positions, a driller is most likely to kill someone with his mistakes. For all this, Lindsey earns $9 per hour.

Second in seniority, with 15 years of oilfield work, is Tony Bailey, the "derrick hand." He has the build of a man in his late 30s, but his face is older. His beard is flecked with gray, and his face has been lined by the wind. His father and grandfather worked in the oilfields before him. He was employed as a driller during the boom of the early '80s, but says that roughnecking suits him fine because he would rather not have the annoyance of keeping a crew together. His principal job is to lean out from a windswept platform halfway up the derrick and manhandle 60-foot stands of pipe into and out of a massive steel bracket that's attached to the derrick by a traveling block assembly. It's a windy place, "but I like the wind," he says. Bailey alternates between periods of affability and long silence. He smiles often, but it's a steely sort of grin that reminds me of photographs I've seen from Dodge City in the 1880s.

The last two roughnecks on Lindsey's crew stand on the drilling floor and apply the yellow-painted tools

that attach and unscrew 30-foot lengths of drilling pipe. These are Scott Reed and Ron Paxson. His face barely visible behind a nest of dark hair and beard, thick-bodied Paxson is the talker of the crew, stringing colorful anecdotes together with even more vivid epithets. Paxson began roughnecking just before the 1980-85 boom began. His dented hard hat is pasted with faded company stickers and logos dating back to the boom.

Reed is the enthusiastic newcomer, with two years' experience. He appears happy to be here. He says he once worked in a packinghouse for four months, but found the building too stuffy. He tells me that he wants to bring his wife out to a rig one of these days, "so she can see how much fun it is."

When the men get together on breaks, lolling on the "lazy bench" by the electric heater in the doghouse, cracking open sunflower seeds with their teeth and spitting out the shells on the plywood floor, their talk is mostly of mishaps and mistakes. I hear of a company

Driller Roy Lindsey watches as pipe is lowered down 100-foot rig; lives depend on his skill and judgment.

Roughnecks Paxson (standing), Scott Reed (right) and Tony Bailey take break in "doghouse" during shift.

that started a well six miles from the right place and discovered a rich streak of oil for another outfit. And they describe a wide variety of grisly work injuries: men falling onto steel, steel falling onto men, rigs being blown over in tornadoes. They discuss these with the same seriousness as they would a fistfight, which is to say they joke about it.

Drilling on a typical shift, the four work at an easy, methodical pace. Some of the time is spent housekeeping: they gather rock samples, tend to the drilling mud and take care of the aging machinery—some of which dates to the 1950s. Once I watch Lindsey up on the roof of an engine house, trying to brace a wobbly diesel exhaust stack. Rather than shut the engine down and let the stack cool, he is determined to keep drilling every possible moment, and so he wrestles the hot sooty pipe with gloved hands and tries to avoid a faceful of diesel smoke.

About every two hours the men stop the turntable, clamp the long string of pipe, disconnect and stow the uppermost rotary gear, screw on a new 30-foot length of pipe, restore all the gear and resume drilling. All their handling tools are outsize. Even the tongs are too heavy for a man to lift without risking a back injury, so a small winch, called a cathead, pulls them into position. A pulley block swinging just overhead is so big it looks as if it belongs in a steel mill. The men treat it with an easy familiarity; when I am up on the derrick visiting Bailey on his platform, he teaches me how to swing aboard the bracket that hangs below the block, and I ride it down to the ground.

Late at night, the roughnecks invite me onto the platform to try my hand at changing some pipe. Though I have spent my share of time in construction and timber cutting, I decline politely. It's immediately apparent that this is no place for the dilettante. A trainee—a "worm," in oilfield talk—has many hazards to keep him alert: chains to snag a gloved hand and wrap it onto a spinning pipe, along with an arm; pipe and tools to slip and crush a foot; and steel decks slick

with ice or mud or oil. Paxson lost a portion of his ring finger to a cathead on another rig.

"There's a million ways to die out here," says Martin Miller. Miller, vice president of the drilling company, has stopped by to check on progress. He arrives in a 12-year-old, faded-blue LTD. Like the rig, the company car is yet another sign that small contractors like Blue Goose are "on a thin edge," as Miller says.

As are most oilfield managers, he's on 24-hour call to troubleshoot problems. Profit margins are so slim that even minor difficulties can lose Blue Goose its entire profit on a hole; major problems like a wellhead fire can cost them an entire rig. To keep costs down, the company lowered equipment insurance for wind or fire damage to its two rigs.

"Counting pennies like the rest of us"

Miller explains that up until the past few months, competition among drillers for the relatively few holes ordered had driven drilling prices to unprofitable lows. Blue Goose survived by reaching out far from Great Bend to find work, and by scavenging surplus machinery and drilling pipe idled during the long oil bust. The company found an $80,000 derrick on sale for $4,000, and bought no more new parts than it needed to keep old pumps and motors going.

Since the Kuwait crisis, Blue Goose has been receiving enough orders to increase its drilling prices slightly. "It's the first time in five years that oil operators have asked us when we can start, rather than how much it will cost," says Miller. His frustration now has another complexion: the company owns a second rig it could operate simultaneously, but can't find the 12 to 16 experienced crew members to run it. Other drilling contractors are in the same situation; since the height of the early '80s boom, more than 300,000 workers have left the nation's oilfields.

But the plight of small drillers and operators over the long oil-price slump gets little sympathy from landowners, such as Kansas rancher Mark Coberly. Coberly also owns a feedyard southeast of Oakley. "It's making 'em learn good business practices," he says. "They had it too soft for years. Now they're having to count pennies like the rest of us."

Among those counting coins are the roughnecks. During one break in the doghouse, they tell me about the boom days of ten years ago. The money came down so thick and fast, Ron Paxson says, that some roughnecks left paychecks uncashed because they couldn't spend them fast enough. Salesmen came by the rigs to leave stacks of gloves, hats and other freebies.

"We thought it'd never end," says Paxson. But it did. "In 1985 and '86, they took away our wages and our benefits, and shut down our rigs," says Bailey. Now the roughnecks buy their own gloves out of their $7.50 hourly wages. Every glove I see has holes in the fingers. Paxson began in the oilfields at $7 per hour; today, 11 years of hard-won experience later, he's making considerably less, after inflation.

Late Friday evening, the men go out on the platform to find high winds, rain and a brisk lightning storm. The work goes on regardless. By 10:30, the storm has rolled on, and the morning shift, or "tour," arrives to take over. Lindsey and his men change out of their grease-stiffened work clothes, stuff them into lockers and head for home in a Delta 88. It's quite a commute to begin late at night: 140 miles to Great Bend for sleep and a meal, then on the road again at noon the next day for another 140-mile drive back to the rig. With a schedule like this, the men are not tearing up the honky-tonks after work.

Besides the drilling company, such a well brings work for more than a dozen oilfield service companies and specialists. One expert vital to the rig's work is "mud engineer" Ken Dohm, who sells ingredients for drilling mud. He makes the ultimate in house calls: every morning that the crews pump mud down the drill pipe, Dohm drives from Great Bend to diagnose the rusty-red, creamy fluid that carries rock cuttings back up. It takes him a half-hour of work with a miniature lab he unfolds on the tailgate of his pickup. He then writes a prescription, describing how to dose the mud up to optimum performance. Visiting up to six wells a day, working 12 hours a day and seven days a week, Dohm runs up 90,000 miles a year on his pickups. "Some of us just like to drive," he says dryly.

A microscope and a keen sense of smell

On Saturday, at 4,070 feet, Childress' attention shifts from drilling to detection. His adviser is consulting geologist P. Sam Houston. Childress hires him by the day, plus a small percentage of the production if the well comes in. During the boom Houston worked 150 days every year in the field; now he spends just 40 days a year in the oil patch. He has an office at the well—a rinky but serviceable trailer a hard hat's throw from the doghouse—and sleeps at a motel in town. Solitary and self-contained, he seems happy to retire to his motel room to fix dinner in a toaster oven and read the latest auto-restoration magazines. A man of many hobbies, he owns seven classic cars in various stages of repair.

Seated at a desk in his trailer, with Childress looking on, Houston begins by scrutinizing rock samples collected by the drilling crew from every ten feet of hole. Raking through the tiny fragments with tweezers, he hunts for pieces that are porous, fractured and oil-soaked, using no more than a microscope and a keen sense of smell. Every few moments, he consults drilling-

In a trailer near the rig, geologist Sam Houston looks at rock samples and drilling-time logs provided by the drilling crew. With his microscope, he searches for porous, oil-soaked fragments that promise success.

"Mudman" Ken Dohm arrives daily, prescribes mixture of mud to help circulate fragments and cool drill bit.

Oil tester Dan Bangle uses portable lab, separating oil, mud, water, to see how much oil a zone will produce.

Larry Childress views the condition of a mud pit left over from a previous drilling site that did not pan out.

Mud pit must be completely dried out before bulldozer can cover it over and prepare it to be farmed again.

time logs in his search for clues that add up to a profitable well. Oil-soaked rock is not enough; the rock also must be permeable, and large quantities of pressurized water or gas must be on hand in the same layer to drive the oil toward the hole. The rock is so well known to petroleum geologists that, even if only a few feet thick, every layer in the pay zones has a name.

In essence, geologists like Houston are trying to peer down at ancient rock formations buried as much as a mile below. The uplifting of the Rocky Mountains was an extreme event that caused wrinkling of rock 60 million years ago all across the plains, including changes in underground structure. The underground wrinkling provides places where oil can collect. The geology here is "subtle," as Childress phrases it, and oil pockets are so small that 100 feet east or west makes the difference between a paying well and a duster.

Houston sniffs the rock cuttings once more and reports in a professorial drawl that the signs are favorable enough to begin "drillstem" testing. Childress agrees and gives the order. Soon the crew begins to drag up the pipe and stack it alongside the derrick. The derrick shivers with the load, and the diesels send out deep-black smoke signals; out away from the derrick, I can feel the ground shake. In a short while, the drillstem-testing specialist, Dan Bangle, arrives in a stubby, rugged truck and begins assembling heavy valves and stoppers near the platform. These valves will allow mud, water, oil or gas at the bottom of the hole to flow up into the pipe and be captured there for scrutiny. Nobody expects oil to gush up from below and spout over the derrick, as in a scene from *Giant.*

Bangle, who admits to being "about 45," estimates he has hauled his testing gear around to considerably more than a thousand wells over 14 years. His work week makes an on-call obstetrician's schedule look like

a model of regularity. He'd been home with his family for just one day when Childress' well took him out of town again, maybe for as long as a week. "I still haven't convinced my wife why I have to leave in the middle of the night and be gone for days at a time," Bangle says. His only extended break over the past year came after a drilling pipe rolled onto his foot, crushing it and laying him up for four months.

Bangle's drillstem test will take half a day of pipe handling and monitoring. During a lull I visit Wieland No. 1, a producing well 660 feet north. Here, a big rocking-arm pumpjack lifts the oil up from the depths and forces it through a buried pipe over to a set of tanks by the road. Like most wells in Kansas, the well produces salt water along with oil. The brine "is a necessary evil to us—like weeds to a farmer," explains Danny Biggs, an oil company field superintendent based in Great Bend.

Salt water is good because it drives oil to wells, where pumps can lift the combination to the surface; it is bad because the only legal thing you can do with salt water in Kansas is to pump it back underground. Along with electricity and maintenance bills, salt water disposal can be one of the unavoidable expenses that explain why Kansas oilmen regularly plug and abandon "stripper" wells still producing 100 or more gallons of oil a day. Around the country in 1989 alone, 16,107 stripper wells came off the production rolls.

Wieland No. 1 is still pumping five to six barrels (about 230 gallons) a day, and Childress estimates at least ten more years of production. At the roadside tanks, the oil spills into a separator tank that allows the accompanying salt water to settle out. From there, two storage tanks bank the oil until a tank truck can pick it up for transport to a pipeline. The price for each tankful varies from load to load, according to the current market.

A friendly grouchiness comes easy

The drill site attracts occasional visitors. The most regular is Charlie Wieland. He bumps down the access road in a dusty black El Camino; when the car stops, two big yellow Labradors hop from the back and head for the crew's doghouse. Wieland is a big sociable bear of a wheat farmer and wears a pair of pliers in a holster on his hip. Wieland and his brother Dave own a portion of the underlying mineral rights on this wheatfield and have 24-hour visitation rights.

Farmers are in an awkward position. During the term of a lease they have no say at all over where the operator drills, how often or when. Operators have the right to doze roads and pads right across the crops, as long as they write a check for any damage after cleanup. The payoff is nice, however: if oil arrives, mineral owners generally earn one barrel out of every eight off the top. Just one decent well can bring a single owner as much as $12,000 a month, before taxes.

As with many owners during drilling, Charlie Wieland's state of mind borders on paranoia concerning any goof-up that might get in the way of oil production. Even on a well drilled by Childress—who has brought in two producers on this tract—Charlie stops by several times a day to keep a close eye on developments. "Whenever they drill," Charlie says, "we're here." A sort of friendly grouchiness comes easy to him; during his visits I learn that he has the same opinion about county tax assessors as he does about the Russian wheat aphid, a voracious bug that is the bane of farmers hereabouts.

And Charlie Wieland is there for the first drillstem test, late Saturday night. Childress, also watching, tells me a fair test will fill 300 feet of pipe with muddy oil; a

good test will fill more than 1,000 feet. Nearing the end of the string, Paxson taps on each length of pipe with a wrench to see if there is any fluid inside. A clear *ding* means it is empty. Eventually one pipe goes *thunk*, and when the joint is broken, Bangle, the drillstem tester, fills a bucket with muddy oil. But the test has brought up much less oil than a "good" one should; Childress orders drilling to resume.

For the next four days, Childress orders one $2,500 drillstem test and sometimes two, every day, as the bit passes through successive layers. On Monday, Bangle gets no more than five hours' sleep at a nearby motel before he heads back out to start another round of drillstem work.

Everyone is beginning to show wear. Rather than working in the steady, even pace of drilling, the roughnecks have been alternating between waiting in the smoke-filled, overheated doghouse and hours of nonstop, cold and windy work "tripping" pipe in and out of the hole for tests. They joke about wearing out the bit by hauling it up and down so often. And for two nights in a row, the relief crew following Lindsey's shift arrives short one roughneck; Paxson and then Bailey have to pull 16-hour shifts to make up for the missing man. The next day, I find Bailey snoozing in the sun, curled up on a pile of mud bags.

Childress still has his smile ready, but it's thin and drawn. "I'm just about played out," he says. "I always am by this point." I look into the doghouse one night to see him sitting with his head in his hands. For the past week the world price of oil has been dropping steadily, and trying to forecast the profitability of a marginal well based on an oil price somewhere between $10 and $30 per barrel is probably giving him a whopper of a headache.

Childress is running out of potential pay zones. A sixth drillstem test Wednesday morning has shown poor results. Meanwhile, he's nearing the point when he'll have to decide whether to abandon the well or to more than double his investors' expenses and try for production. No test so far has given him much confidence that No. 4 will ever pay back the high expenses of production work. It's a reminder that no oil drilling investment comes with a money-back guarantee. "Just pretend you're going to Las Vegas," Biggs had told me earlier. "If you've got money you can afford to lose, fine, but don't take the kids' savings."

Then, that evening, Childress' fortunes change with a single test. When the hoist first lifts the pipe off the bottom, a weight indicator shows that it is thousands of pounds heavier than when it arrived on the bottom. Something—perhaps oil—is inside. The crew begins stacking pipe in the derrick. Then, with many pipe lengths still in the hole, oil and mud begin spilling out of the sections being pulled off the top. This is the part that the operators love and the roughnecks say they hate: despite the canvas shrouds, oil jets downward from pipe after pipe and coats the roughnecks like spray paint. Dark sludge ripples across the steel deck, and the men have to spread cottonseed hulls so they can stand up until they have a chance to hose everything off. At the final tally, the test has brought up 1,880 feet of oil mixed with mud and gas, forced up the

Wieland No. 1, pumping as a storm moves in overhead, was Childress' first productive well in Oakley, Kansas.

pipe by pressure below. Childress is so buoyed that he orders a load of production casing for delivery the next day and installation on Friday. "This is the well maker," he says.

Childress tests once more Thursday night, at a deeper layer, and finds yet another favorable zone. He orders a final instrument profile of the hole, called an "electric log," and drives back to Oakley and bed. Awakening at 4 A.M., eager for home, he leaves for Missouri. On arrival, he calls Houston to learn the log results; it confirms that the well is a good one. Without any reservations, Childress commits to the $80,000-plus that completion work will require.

On Friday, a special crew sets the production casing. On Saturday morning, a Blue Goose crew dismantles the rig and hauls all the gear to another site a mile east. Childress will leave the mud pits to dry for several months, then will hire a dozer operator to level the ground around the new pumpjack.

At last report Wieland No. 4 is producing 130 barrels a day, and Childress says he'd guess it will probably, at some point, settle down to somewhere between 10 and 20 barrels, but it's hard to say. It's not the granddaddy field that Childress is looking for, but it should make money for many years. And in this corner of the oil patch, any profit is very good news.

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Let's get it together...buckle up.

By Phil Patton

A day in the life of the National Gallery at age 50

There is much more to running the great institution than putting up pictures on the walls. Here's a view from the inside

Inside the National Gallery of Art, shots rang out. They were not the sign of a dramatic heist attempt, but simply practice at the shooting range secreted in the vast complex.

It was 8 in the morning, one day not long ago, as the Gallery moved toward the 50th anniversary of its dedication on March 17, 1941, and one of the security officers authorized to carry firearms was sharpening his aim. The gun emptied, he tugged the target back on its pulley, as coolly as Mel Gibson would, then dropped the gathered shells into one of the red Folger's coffee cans nailed up at each firing position.

The shooting range is one of many secret spaces hidden within the National Gallery's great superstructure. A whole world of activity goes on in these buildings, behind the public spaces, before and after the public hours.

The gunshots, well insulated in the range, were not heard in the galleries or the offices or the library. Or in any of the Gallery's shops, which sold more than 100,000 catalogs in 1989, along with books, cards, posters, calendars, video and audio tapes, and other items, producing some $10 million in revenue. Or in the photographic archives, whose one simple ambition is to possess an image of every notable work of Western art ever created, which has led, so far, to the accumulation of six million of them. Or in the Center for Advanced Study in the Visual Arts (CASVA), where 25 scholars—no more than can line an amiably collegial dinner table—work on various projects.

This view is of the Constitution Avenue side of the Gallery, looking east up the Mall toward the Capitol.

The classically domed West Building opened in 1941.
At left is I. M. Pei's East Building, opened in 1978.

Photographs by Dennis Brack/Black Star

Ocean-liner-like cooling, heating and plumbing pipes, striking in brilliant colors, keep things shipshape.

Certainly the sound did not reach the basement of the West Building, where Harold Michael jr., operations manager, listens to the familiar hum of transformers and pumps and fans and centrifugal chillers.

"This building is like an aircraft carrier," Michael says. "These piers are driven down through the old Tiber Creek," he explains, and the Mall's high-pressure water table still presses into the building's walls. The East Building, he adds, is tied down with prestressed cables to solid rock and weighted with concrete. Without that anchor, "it would pop up like a boat."

The Gallery is also a kind of ark. Its precious cargo is carefully maintained by all of Michael's equipment in an atmosphere kept within 5 degrees of 70 degrees F and at 50 percent relative humidity by the constant watchfulness of smoke detectors, alarms and video surveillance. Wandering belowdecks, through the warren of passages and rooms that join the buildings, one cannot escape the sense of something nautically sealed.

Moored like other great national institutions along the wide channel of the Mall, the original West Building is the main hull, and the angular East Building, a modernist structure by I. M. Pei, opened in 1978, is the bow, seemingly slicing its way toward Capitol Hill, the source of 80 percent of the Gallery's operating budget and of its status as the nation's art museum.

Today the National Gallery is the most visited art museum in America. Through its doors, which are open 363 days of each year, an average of six million people pass annually. Admission is free.

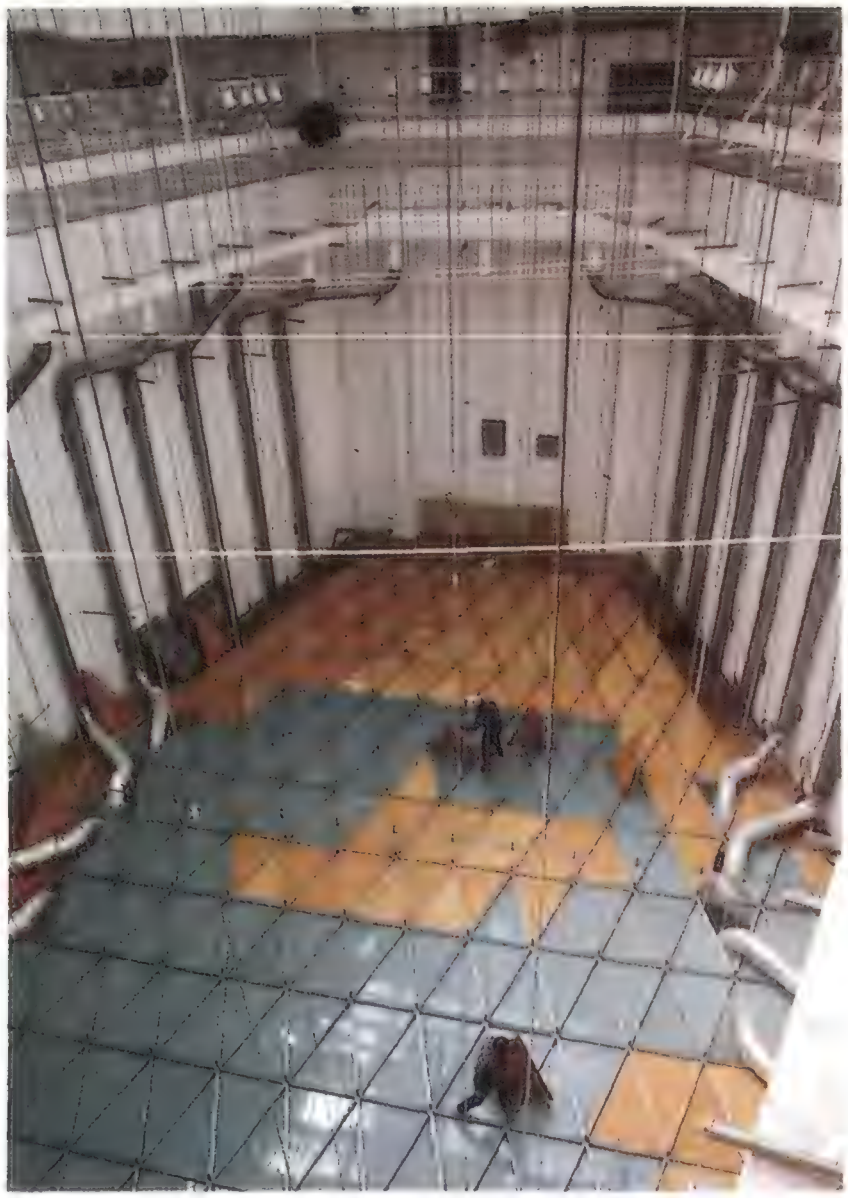
It contains some four and a half acres of galleries, a library, a study center, nine greenhouses, six fountains, a machine shop that includes a plumbing shop and a metalworking shop, two cabinetmaking shops, three kitchens and public dining rooms, two garden courts, and a specially cooled chamber for wax maquettes of dancers created by Edgar Degas.

The place is jumping, to put it mildly

In recent months, there has been a particular urgency and busyness about the institution. To celebrate the anniversary no effort has been spared, no department, no aspect of activity omitted from special showcasing for the event. A major exhibition of gifts is the centerpiece—"Art for the Nation: Gifts in Honor of the Fiftieth Anniversary of the National Gallery of Art." It will be accompanied by a show of drawings by John Russell Pope, architect of the original West Building, concerts, dinners, receptions and seminars.

The permanent collection is also being reinstalled for the anniversary. The paintings of French artists who worked chiefly in Rome are being set near those of the Italians; El Greco will no longer be segregated by mere reason of nationality from the obvious influ-

The Gallery's staff of horticulturalists and gardeners provides decorative plantings for exhibits and parties.



As delicately as spiders in a web, workmen go about repairing skylight leaks in the East Building canopy.

ences of Titian and Tintoretto; and, for the first time, French and Italian sculpture is to be integrated with painting of the same period. But most of all, the anniversary has been used to crystallize the philanthropic inclinations of potential donors into specific gifts.

In 1936, Andrew Mellon, the dour Pittsburgh banker who had been Secretary of the Treasury for Presidents Harding, Coolidge and Hoover, as well as Ambassador to the Court of St. James's in 1931-32, offered to give the U.S. Government his $31 million art collection, an additional $15 million for a building to house it, and $10 million toward an endowment to add to it and to pay for curators. The United States, in turn, would pledge the faith of the federal government and annual upkeep, which is now around $40 million. Private funds ($10.8 million last year) provide for acquisitions. While many museums scramble to raise money for operating expenses and, confronted by rising art prices, cut back on acquisitions, the National Gallery is poised to become an even more powerful force among museums in the second half of its first century.

Mellon's offer was a banker's deal that not even the New Deal could turn down, and the Gallery's unique status among museums was established. Although a national institution, it was not a creature of the dictates of a Louis or a czar. It was not a palace, like the Louvre, thrown open to the public by a revolutionary committee; or a civic institution founded by beneficent millionaires, like its rival, the encyclopedic Metropolitan Museum of Art in New York. It was the result, instead, of individual philanthropy awakening a sense of collective responsibility, created by both private privilege and public virtue.

To Mellon's collection, the Gallery's first director, David Finley, and his chief curator, John Walker, quickly added four more, whose donors and Mellon figure in the institution's history as an honored quintet of "founding benefactors." All of the donors had at times been difficult, and each had in his own way stretched the terms of the Gallery's original mandate. There was Joseph Widener, son of a Philadelphia stock market baron; Lessing Rosenwald, of Sears, Roebuck; Samuel Kress, the dime store magnate, the uneven

Phil Patton is at work on a book about American design, due this autumn from Grove Weidenfeld. Dennis Brack's photographs were taken for the book America's National Gallery of Art: A Gift to the Nation, *published this month by the National Gallery of Art and distributed by Harry N. Abrams, Inc.*

quality of whose collection required loose interpretation of the Gallery's mandate to accept only work equal in quality to Mellon's original bequest; and Chester Dale, stockbroker, whose collection included modern art and led to a change in the Gallery's ban on displaying the work of living artists. The works donated by the quintet quickly moved the Gallery's collection to the top rank among museums.

The building itself was built equally solidly, at comparable speed. Marble from a Tennessee quarry was shaded from the base up; otherwise, just to match the quarried stone would have taken a decade. But Andrew Mellon didn't have time left for that: he was 81 when he made his gift, and he died in 1937—a few months after Congress accepted the gift, but four years before the Gallery opened to the citizenry. Architect John Russell Pope didn't have time either: ill with cancer, he knew the Gallery would be his last building. He died the day after Mellon did.

The morning of my visit, Gallery director J. Carter Brown enjoyed a second breakfast. His first, at about 7:30, had been taken at home with his children, Jay and Elissa; the second was with Senator H. John Heinz III of Pennsylvania, a longtime supporter, as citizen and public servant, of the Gallery. At that breakfast, Heinz, of the "57 Varieties" family, committed himself and his wife to giving the Gallery Thomas Eakins' *Portrait of Rear-Admiral George W. Melville.* Brown's pitch to donors turns on the special federal status of the Gallery. He speaks of "the national patrimony" and of "gifts to the nation," eliciting visions of values far greater than simple philanthropy and of institutions far beyond a mere museum, and pushing the emotional levers not simply of culture but of patriotism. If the Gallery is a ship, it often presents itself as a ship of state.

And with the prices of art up and the dollar down, Brown has an opportunity to strike the patriotic note again: works that go to the auction block in the current situation are likely to end up in Japan or Europe.

This special status as national museum on the international scene is a running theme in the Gallery's presentation of itself. "Host and emissary in the international exchange of art," runs the headline in one of the Gallery's anniversary brochures. Its curators have moved just a few steps behind diplomats and top-level negotiators in recent years, dealing with the Soviet Union, China, Eastern Europe, Egypt and Turkey as political barriers have fallen.

Harold Michael was an early arrival at the Gallery. Since 1962, he has, among many other tasks, kept watch over the heat and humidity in the building. Michael, who grew up on a West Virginia farm, is engaged in a sort of farming here too: producing a crop that requires constant care. No frost, no drought can be allowed to inflict damage. To that end, a huge pipe brings in water from the Tidal Basin to remove heat from the building. Another feeds steam produced

Mounting an exhibition is meticulous and frenetic work. But the portrait of Ailsa Mellon Bruce, Mellon's daughter, hustled through a gallery, appears serene, as if aware of its value in dollars and prestige.

at two General Services Administration-run plants—official government steam: the same steam that keeps the President warm in the White House keeps Titian and Tintoretto, Monet and Manet warm.

"I love this building," Michael says unabashedly, standing beneath the pipes through which flow 3,000 to 4,000 gallons of Tidal Basin water a minute in the summer and 20,000 pounds of steam per hour in the winter. Around him people sit 24 hours a day at control boards where pneumatic and electronic sensors report the conditions in distant compartments of the vessel. "To have something to do with preserving art is a great responsibility," he says, "and you have to be obsessed with doing it right."

When the museum opened, its staff consisted of 250 guards and 5 curators. The joke was that the guards were there to protect the paintings—and to direct visitors to the next one, so widely scattered was the collection of 126 paintings and 26 sculptures. (There is still a lot of space in the Gallery, and a higher proportion of the collection—well over half—is on display than at virtually any comparable institution.)

The Gallery opens its doors to the public at 10. Each weekday morning at 9:15 the main body of guards assembles for roll call in the auditorium beneath the East Building. Roll call can sometimes be rowdy, veterans warn—an occasion for complaints and accusations. But on my visit things seemed comparatively mellow: it was an antiphonal sort of proceeding, suggestive of the pre-Sunday school announcements in a black church.

A senior officer took the podium, soliciting support for a literacy program, a drive for the needy, an ailing colleague. "I went to the VA hospital yesterday and saw brother Hall, and he's not doing well, not doing well at all, and he'd appreciate some visitors."

Finally, post assignments were handed out. Most guards are least happy with assignment to the room with the nightmarish Bruegels; the French Impressionists rate as the most desirable posting.

Duty can become tedious. When chief of protection Jay Chambers, formerly of the Smithsonian security office and military intelligence service, arrived last year, he instituted "roving posts"—beginning with the inspection of the works in an area, then following a prescribed set of movements, moving with the crowd, and inspecting the works again at the end of the tour. Before, Chambers says, guards sometimes fell asleep.

"For the first week or month, you run through all your ordinary thoughts—family and so on," recalls George Martin, who put himself through college at night while working for nine years as a guard and is now deputy chief for administration. "Then you begin to think about the art," he continues. "It begins with the inspections you make; then you watch people looking at the art, you listen to comments and lectures. You wonder, why did Gauguin paint that figure purple or why did Seurat paint with dots?"

At home, Martin found himself noticing paintings

Above, some of the Gallery's six million annual visitors bathe in the glow of Van Dyke masterpieces. Curators, other museum personnel, are the only lucky ones who get to rub shoulders with stored treasures.

Generally acclaimed as a triumph of architectural design, the East Building is sheathed in the same pink Tennessee marble as its parent to the west. The structure was completed at a total cost of $94.4 million.

in magazines and on television. "There's the Rembrandt in *Bewitched*, the woman with the broom. *You* look sometime, it's right inside the front door—a copy, of course."

"The guards are simply the most important people in the museum," says Jay Chambers. If there are most important rooms in the building, they are the central security centers, hidden somewhere deep in the hull of the building (Chambers is not eager for me to share exactly where) and filled with dozens of video screens linked to hidden cameras and alarms, where console operators watch 24 hours a day in an ambience somewhere between that of a network news center and the control room of a nuclear power plant.

Even before the guards had mustered, Deirdre Armstrong, staff horticulturalist, was raking the gravel in the Japanese garden. She grooms the garden once a week, and it is a whole day's job. That garden is a remainder of "Japan: The Daimyo Legacy," a 1989 exhibition. Tucked behind a wall adjoining the East Building, the garden's Japanese black pine and maple, its islands with standing rocks and smooth gravel, sit on ground formerly occupied by the hollies of an English garden planted in 1986 for the Gallery's show "The Treasure Houses of Britain."

Don Hand, chief horticulturalist, created the garden according to the fixed rules of Japanese design. To obtain suitable rocks, he located a rock seller in, but of course, Rockville, Maryland.

Hand and his staff of 13 must also look after nine greenhouses, tucked behind walls of the West Building like gun emplacements. The public is rarely aware of them, but the greenhouses produce potted trees and shrubs that shield bare walls in temporary exhibition spaces, replace plants in the garden courts, and provide accents for parties and luncheon tables. "Our plants," says Hand, "get moved so much they should have wheels on them."

At 11 o'clock Hand got a call: the director's office needed some plants for a table setting for a luncheon at 12:30. Hand had some neatly trimmed pots of rosemary and myrtle topiary readied, and by lunchtime they were on Carter Brown's table.

Before that meal, Brown spoke on the phone to London with representatives of the British committee charged with keeping national treasures from departing the country. A special 50th-anniversary committee has bought a Jusepe de Ribera painting from a British private collector for $5.2 million. The 17th-century Spanish baroque work, *The Martydom of Saint Bartholomew*, is to be the focal point of the "Art for the Nation" exhibit, the gift of the anniversary com-

La Cascada de Los Robles, San Sebastian

If You're Looking For Paradise, I Know The Directions.

Raul Julia

High in the hills near Aguadilla, the crystal-clear water tumbles into an aquamarine pond. Jungle plants blossom to the accompaniment of garishly colored songbirds. You arrive via a winding road with no name. Eden Lane?

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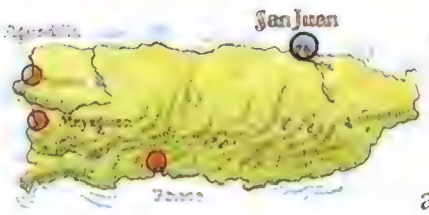


"This Paradise is ringed by 272 miles of beaches."

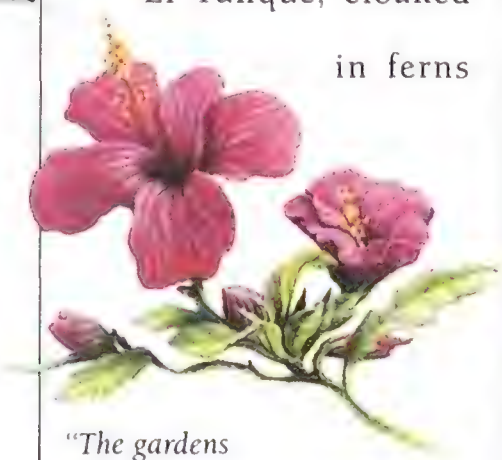
Nearby, on a palm-lined beach, it is cloudless, placid and bone-dry.

Elsewhere, wide-eyed visitors descend by tram into the earth's cavernous core. Through caves that are as tall as urban buildings, among giant stalactites and stalagmites, weaves the third-longest underground river in the world.

A parting image from the sky: a 100-mile spine of mountaintops begins and ends with pearl-white sand and deep blue sea.

Paradise? There are a million and one reasons why Puerto Rico is called the Shining Star of the Caribbean.

"Rock singer spotted in El Yunque."



"The gardens of Eden are everywhere in Puerto Rico."

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mittee, representing a heavy amount of fundraising.

The Gallery had earlier attempted, unsuccessfully, to lay hands on another European Old Master, a great American painting or a major piece of sculpture for the anniversary show. Now, this attempt is in danger: the British have blocked export of the Ribera, pending a decision on whether its shipment will represent a major loss to the United Kingdom's own cultural patrimony. In the painting, Saint Bartholomew is about to be flayed alive; shortly afterward, he will be crucified. The British seem to draw some analogy between the subject and the sale.

Brown made a persuasive pitch, invoking the deeply shared Anglo-American notion of fair play, pointing out that Britain's own National Gallery had a chance to bid on the painting but was unable to raise the funds, despite the eagerness of curators: "They were dying for it." But the outcome remained in doubt. "It's a gamble," Brown confessed, with the air of one who enjoys gambles. Bidding on behalf of the Gallery, Thomas Agnew & Sons, the British dealer, waived its fee, making an anniversary gift of its services—a not insubstantial amount.

Andrew Robison, senior curator at the Gallery, came up with the idea of a 50th-anniversary show five years ago and has been working on it ever since. For two years the curators compiled dossiers on previous donors, people who had promised gifts and so on, and targeted 150 for special attention. For the past three years Robison has pursued them, spending his days visiting them and dealing with dozens of phone calls a day, listening, advising on taxes and finance, and subtly wooing. "I started out as a private collector," he says, "so I speak their language. The relationship between a museum and the collector is long and complicated," he explains; "there is a mutual learning about each other. It is a matter of trust developing."

"Now that the portcullis is about to go down," as Robison puts it, gifts are arriving at such a pace that all departments are straining to properly receive, catalog, display and record them. Not only paintings and drawings, but books and other items make up the anniversary haul. Executive librarian Neal Turtell has just received a gift for the library's portion of the 50th-anniversary celebration. A 1568 off-print edition of Vasari's chapter on Michelangelo, the 44-leaf pamphlet is rarer by far than a complete three-volume edition of Vasari's *Lives* itself, which the library already owns, ensconced in the cool, cozy, rare book room on the concourse level of the East Building, behind carefully alarmed and locked doors.

Keeping track of these gifts and of all the works of art constantly moving into and out of the Gallery, as well as within it, is the task of the registrar's office. There, registrar Mary Suzor and associate registrar Anne Halpern recorded, on the 3d of last December, that the Gallery's permanent collection contained 2,840 paintings, 1,965 sculptures, about 60,000 graphics and 557 pieces of decorative art.

Each day's movement sheet records the shifts. The December 3d sheet noted that two paintings by Grant Wood had been shipped to Cedar Rapids, Iowa, for a temporary exhibition; a Mark Rothko was returned from an extended loan to the North Carolina Museum

Gill Ravenel (left), chief of exhibition design and installation, lays out a plan with his associates Mark Leithauser (center), himself an artist, and light designer Gordon Anson. Mock-up is for "Sculpture of Indonesia" show, on view in 1989.

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of Art; three Impressionist works were sent to be photographed, and one was sent to the conservation department for x rays.

At 10:30, in a storage room beneath the Gallery, a George Bellows painting, *Tennis Tournament*, was being prepared for shipment to a museum in Indianapolis. The situation was complicated, said art services technician Johnnie Mizell, because the museum in Indianapolis has water sprinklers and the painting therefore had to be encased in waterproof materials: a Plexiglas sheet covered the front, while plastic and Fomecor covered the back.

In its crate, the painting would ride in a bed of gray polyurethane foam. Extensive tests with temperature and impact-shock monitors produced guidelines for packing: four inches of polyurethane foam on the bottom, two inches on the sides and top. Any more, or less, increases the transmission of impact and temperature changes. The waterproof crates are, in effect, little capsules filled with the Gallery's own carefully maintained atmosphere. Temperature and relative humidity in the crates change very little, if at all, and more important, change very slowly.

Works of art generally do not travel alone. They are accompanied by couriers, drawn from a pool of trained personnel—registrars, conservators, curators—who watch the loading and unloading of the works and see them safely to their destinations, often riding with the crew in the cockpits of freight aircraft, filling out condition reports at the beginning and end of journeys. This task can lead to another odd juxtaposition: couriers often sit with horse handlers, who must also accompany their shipments in person. As that day's courier, Johnnie Mizell would accompany the Bellows in a truck to Indianapolis. It would be a long trip. He might talk to the truck driver; he might sleep in the bunk in the back of the cab, if there was one.

A paper trail of provenance

In the Gallery storage area where the Bellows was packed up sat other paintings, as if watching, many million dollars' worth of art on sliding panels of heavy wire mesh: a Pollock, a Picasso, a series of Rothkos. On the back of each was the history of their travels, a series of labels indicating prior owners and special exhibitions—a sort of steamer trunk accumulation of travel souvenirs, a paper trail of provenance.

Head of education Linda Downs supervises a staff of 50 employees and 400 volunteers, who lead tours, give lectures and greet VIPs. In a year, they shepherd 100,000 adults and 46,000 students through the museum, from 3-year-olds given the "Senses" tour, to the "Elements" tour that was being conducted for a class from the Orange Hunt Elementary school. (In front of

The conservation department may look at times like Merlin's cell, but it has 27 modern computers at hand.

Meindert Hobbema's *Wooded Landscape*, on easel at center, is from 1663, during Dutch art's golden age.

Conservation scientist Michael Palmer examines paint and varnish samples in an Atlas weatherometer.

David Bull, chairman of the conservation department, meticulously cleans Leonardo's *Ginevra de' Benci.*

a Joan Mitchell abstraction the guide asked: "How does this color make you feel? Is it quiet and restful, or is it exciting?" Beneath the giant Calder mobile in the 80-foot-high East Building atrium: "Here's a new word—'biomorphic.'") Grown-ups would be tempted by that afternoon's 2:30 lecture by Paula Warrick, with the titillating title "The Subversive Allure of Rococo Nymphs and Goddesses."

Highlights of the National Gallery collection were recorded onto laser disk a decade ago; the Gallery was the first museum to explore this medium. (One awaits the whole set: Louvre, Uffizi, Met, Prado, Hermitage and Getty in a neat boxed set, snugly shelved beside the Ring Cycle.) Now, Downs' office is exploring prototype interactive computer programs that would explain Impressionism.

Greeting VIPs in seven languages

Not all of the Gallery's educational media are so high-tech: lecturers are on call, ready to greet VIPs in any of seven languages. For lecturer Philip Leonard, however, the language was English: that morning he gave the Duke and Duchess of Grafton and Lady Chadwick a tour of the Van Dyck show. Among the subjects of the portraits were some of their ancestors.

On the desk of Frances P. Smyth, the Gallery's editor in chief, is a cup full of very sharp pencils, each embossed with the legend "Sharpened for Franny." Those pencils—along with Macintosh computers and Linotronic typesetters—are Smyth's tools for running the Gallery's full-fledged publishing house. Four editors and three designers produce 20-odd books a year, some, such as CASVA's publication *Studies in the History of Art*, for a limited scholarly audience; others, big sellers, such as the 1987 Georgia O'Keeffe catalog, which sold a quarter of a million copies worldwide. The latter help subsidize the former.

When I was there Smyth had been proofing pages for the 50th-anniversary show catalog and making sure the captions jibed. An architect's drawing of the National Gallery in London, Andrew Mellon's inspiration for an American national gallery of art, turned out to be only a preliminary drawing and had to be replaced on short notice, with calls to photo archives.

Smyth's department can move in six weeks from layout to finished book, but the anniversary catalog will go right down to the wire. And just in case, it will come equipped with a "kangaroo pouch" in back for the addition of information about possible late gifts. But the hardest part of her job, Smyth said, is extracting manuscripts from their writers. One manuscript that was overdue was the introduction to the catalog, by her boss, J. Carter Brown.

The gifts that keep coming in also make life hard for

J. Carter Brown faces Senate subcommittee; some 80 percent of operating budget comes from government.

Gaillard (Gill) Ravenel, chief of design and installation, who can't add a kangaroo pouch to the layout of the anniversary show. But with a theatrical sense of can do, right up to curtain, he seems to thrive on it. "This is about as fast track as fast track gets," he explains to me cheerfully.

On the basis of such exhibitions as "The Treasure Houses of Britain," and "Japan: The Shaping of Daimyo Culture," Ravenel is acknowledged in the museum profession as one of the most skillful and showmanlike creators of exhibition spaces. "We started at 6,000 square feet," he says, "went to 12,000, and now we are planning for more than 20,000 square feet." But this seems not to disconcert him at all. "We're juggling the whole building right now," he says. "The great thing about the East Building is the way you can work additively."

Ravenel was working over a plan of the East Building galleries, with maquettes of paintings he and his staff have been moving about. He has a photocopy of the Ribera, but he also has a backup, and the two mini-paintings are shuffled in tandem as he plans. With more time, he would have a whole model built of the spaces so he could manipulate them.

"We work as a team," Ravenel says of his staff of 29, the largest design department in any art museum. His department's office is commensurately open. It is a sort of grand garret, an attic space with skylights sliced through the roof, revealing views of the structure within; the high walls are lined with bits of architectural ornament and posters from earlier shows. The anniversary show will carry the visitor from the Renaissance to the 1990s, a sequence of rooms, each with its own moldings, color, feel. "It is," Ravenel says, "a meal in five courses."

From this layout, Mark Leithauser, who with Ravenel and lighting designer Gordon Anson designed the show, will produce evocative drawings of how planned exhibition spaces will actually look, and draftswomen Linda Heinrich and Donna Kwedereis will turn out the architectural plans that show construction details, right down to undershelf caches for a silica-gel dehumidifying agent in the cases that are to hold the delicate Degas waxes.

Brown's office, in East Building, has clear view of the Capitol. He was 26 when he joined the Gallery staff.

A tribute to Andrew W. Mellon, this gala dinner in the rotunda of the West Building called for white tie.

Right now, in the cabinetmaking shop, a wooden base for a piece of sculpture is being marbleized, and directional signs are being completed for the West Building. There is a shop, as well, for lighting and one for paint, and a graphics shop to create wall labels, signs and banners.

One of the paintings that appear in miniature in Ravenel's collection is Albert Bierstadt's *Lake Lucerne* (SMITHSONIAN, February 1990). While Ravenel shifted it about his floor plan, the real thing was downstairs in the conservation lab. There, as he had for nearly two months, chief conservator Ross Merrill was gently working his way, inch by inch, over the vast landscape, 6 feet by 10 feet of canvas, his solvents removing yellowing varnish and a half-century's worth of charcoal soot. If he can finish the work in time, the painting will be a centerpiece of the 50th-anniversary show.

Merrill, who supervises a conservation staff of 45, one of the finest in the world, rarely gets a chance anymore to deal with a painting hands-on like this, but no one could be more qualified. He has worked with many Bierstadts and has spent three years studying the artist's work. The painting's whereabouts were unknown until last summer, when it was discovered in a bedroom of a Rhode Island farmhouse, where it had hung since 1929. The Gallery enlisted the resources of a donor willing to buy the picture for the anniversary. Despite having shared the room with a coal stove, "it was basically unflawed," Merrill says.

Merrill began restoration of the painting by "opening some windows" with solvent. Over time, varnish turns yellow and absorbs dirt, distorting tonal relationships. A slurry of greenish paint had been applied on top of the varnish in some of the darker areas of foliage. All this Merrill has removed, and soon he will reattach areas of paint that have begun to detach. In cleaning the Bierstadt, Merrill discovered all sorts of things: trees, a gypsy camp, a procession of hay cutters and a steeple clock whose hands read 2. It has been agreed by curators and conservators that there will be no compromise in the restoration work to meet the show's schedule, but curators keep dropping in to note Merrill's progress. When Gill Ravenel met Merrill, getting a cup of coffee in the staff restaurant, he told

Life imitates sculpture that was made from live models. The work is George Segal's *The Dancers.*

Nymph in the Woods, a 1915 sculpture by Pittaluga, marks a good place to stop for a quiet moment.

him, "You *will* have it for us; I've made a wonderful place in the exhibition."

On the day I visited, as every day, Carter Brown would spend a great deal of time dictating letters and faxes—into the phone, into a recorder, from his car and at his home. He generates enough dictation to keep two secretaries busy, in shifts. And he does this even during the roughly one-third of his time that he spends traveling, whether a quick day in New York or ten days in Europe, with 12 stops.

In the afternoon he viewed a copy of the wills of two prominent patrons. There is $5 million to $6 million involved if, as Brown puts it, "God forbid they both go down." Another day, he will record an Acoustiguide tour, as he did for the Titian show, where his voice is tracked along with Bach's music—"I've loved Titian all my life."

Brown, the scion of a cultured, well-to-do Rhode Island family, became director in 1969 at age 35; he always seemed young for the role. But now, at 56, a bit war-weary in appearance if not in spirit—"There is no boredom factor in this job," he says, in his third decade at the helm—he has come to resemble less the boyish enfant terrible than Gen. William Tecumseh Sherman with a shave.

Brown's office, in the East Building of the Gallery, enjoys the sort of view of the Capitol that no Congressman's office has, but that invariably shows up behind the politician in his televised messages to constituents back home. Brown has a habit of closing his eyes in conversation. This is not an impoliteness but a token, one suspects, of hours spent on the telephone, which can bring out sudden bursts of conversational energy and warmth.

For the anniversary, Brown is soliciting money in contributions of $50 to $100,000—"units," he calls them, with the tone of one on whose ledgers such numbers are pocket change. "That's a lot of lunches."

Building the next blockbuster

After such business lunches, Brown may consider the situation of the already troubled next blockbuster, "Circa 1492," the show that will attempt to present simultaneous images of the Renaissance Mediterranean culture from which Christopher Columbus departed, the Middle and Far Eastern cultures he sought to reach, and the American native cultures he stumbled upon instead. Loans for the show are proving elusive; many European nations are having their own Columbus-related exhibitions. "The jury is still out," Brown says a bit wearily, "but at least we've satisfied our consciences that we have addressed this major anniversary."

But that afternoon, he returned to the phones, talking of yacht races in St. Thomas and hospitality ex-

tended in Palm Beach. He has learned of a collection that is destined for another institution—is there nonetheless a chance he could peel a painting off for the anniversary? Within a few days the Gallery will obtain permission to bring *The Martyrdom of Saint Bartholomew* out of the United Kingdom. Carter Brown's gamble has paid off, and Gill Ravenel can fix another part of his exhibition plan in ink.

The doors closed to the public at 5 P.M. The guards "swept" their assigned galleries, made a final inspection and headed for their lockers. But the day was not over. At the study center was a colloquium on Greek vase painting; guards had been given a list of those attending, but still they sternly scrutinized each mild-mannered scholar on arrival.

Many evenings, too, the museum will be the scene of a party for corporate sponsors or press or lenders (a fancy black-tie affair). The menus feature recipes appropriate to the theme or artist: they are the province of special-events director Genevra Higginson.

The wife of a diplomat, Higginson is a virtuoso of the dinner table. For lenders to shows, she arranges meals with menus appropriate to the subject—her most imaginative notion, perhaps, was for the dinner that opened the show of works by Frederic Edwin Church, the Hudson River School landscapist. Higginson dug up a favored recipe of the artist's wife: to the tuxedoed and evening-gowned guests, she served Mrs. Frederic Edwin Church's meat loaf.

Even after dessert, the Gallery is active. There are two complete housekeeping crews. The daytime crew has been working all day, quietly, emptying waste cans or squeegeeing the glass pyramids that rise from the cobblestones that stretch between the West and East Buildings. Now the night crew comes in, swarming through the silent buildings, mopping and sweeping and, every few weeks, venturing up to the pistol range to collect the bullets for recycling.

Museum's education department conducts about 46,000 schoolchildren through the galleries each year.

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By Bil Gilbert

Coyotes adapted to us, now we have to adapt to them

Despite our attempts to 'control' these wily dogs, they're doing very well, thank you, as their growing numbers in the East attest

It has been convincingly documented that during the past several centuries human activities have had a profound impact on many other organisms. Identifying and deploring the consequences—pointing out, for example, how we have endangered various species—has become a major work of the environmental movement. This has been accomplished so successfully that a closely related happening is seldom considered or even acknowledged: we are also largely responsible for the emergence of what can be called the "invigorated species." These are creatures who by standard zoological measures—numbers, reproductive rates and distribution—are now doing very well, in many cases seemingly better than they have ever done in the recorded past.

Experts differ as to which animals belong in this special category. My own list of nominees includes alligators, badgers, coyotes, white-tailed deer, house sparrows, gypsy moths, herring gulls, jays, lampreys, opossums, raccoons, starlings, turkeys, woodchucks and red-winged blackbirds. A common characteristic of these and other invigorated species is that they have prospered because people have protected them or increased the resources available to them, or have enriched or enlarged their habitats.

In some cases, because they were especially rare, attractive or popular among sportsmen, we have intentionally encouraged certain creatures. More often we have invigorated some species in the same way we have endangered others—quite by accident. Take woodchucks. When Europeans arrived in North America, these creatures were largely confined to beaver meadows and other small glades in the forests that covered much of the Eastern third of the continent. Since then, purely for our own purposes, we have cleared and opened millions of acres, incidentally creating millions of acres of splendid new woodchuck habitat in which the animals have proliferated.

Often, having inadvertently opened windows of zoological opportunity, we have subsequently regretted it. In this regard, a number of bug types come immediately to mind, but among large native mammals the coyote probably best illustrates what might be called the Pandora's Box Phenomenon. For a century, many private citizens and sizable cadres of public servants have done their level best to eradicate coyotes in some areas and thin them out generally. Despite and, ironically, because of these efforts, coyotes are now generally thought to be one of the most invigorated species of all. Clearly these creatures are possessed of a remarkable resiliency, which given their ancient natural history, is not as surprising as it might at first appear.

The great-granddaddy of them all

Among other interesting distinctions, coyotes are one of the most primitive of living dogs. Also they are, unlike ourselves, absolutely native American animals. According to fossil remains, a close relative of the contemporary coyote existed here two million to three million years ago. It in turn seems to have descended from a group of small canids that was widely dispersed throughout the world and that also gave rise to the jackals of Eurasia and Africa. One to two million years ago, a division occurred in North America between the coyote and the wolf. Time passed. Glaciers advanced and receded. Mammoths, saber-toothed tigers and dire wolves (aptly named canids that had enormous heads) came and went. Native horses left the continent over land bridges, and others returned on galleons. Through it all, coyotes remained basically the same—primitive in evolutionary terms but marvelously flexible, always progressive and innovative—riding out, adjusting to and exploiting the changes.

Often coyotes and many other invigorated species are referred to as "generalists." This has to do mainly with how and what they eat. In this respect, few other creatures have such catholic tastes or more ingenious methods of satisfying them as have coyotes. But although they consume a great variety of things, they depend primarily on meat—rodents and rabbits.

Coyotes shatter the stillness of a forest in Michigan with howling long celebrated as a song of the Far West.

Meet the winner of the coyote wars

Bones record a Texas fur trapper's toll of coyotes. Millions of others have been killed in "control" actions.

Some years ago, three students and I spent 11 months in the brush along the Arizona-Sonora border for the principal purpose of observing coatimundis, highly social animals closely related to raccoons. Coyotes were abundant there, and in the course of things we became acquainted with their eating habits, which at times were very similar to those of rodents. In the winter some of them often foraged in the oak-pine zone on mountainsides. Occasionally they ate grass and dug out succulent roots, but more often they fed on juniper berries, acorns and cactus fruits.

In the valley below the mountain where we worked, there were irrigated farms, orchards and gardens. By local report there was nothing that people grew that coyotes didn't like. In proper season the animals came to harvest apples, peaches, corn, onions and, according to the woman who planted it, a patch of asparagus. There were no watermelon plantations that we knew of in the area, but elsewhere coyotes have sometimes been so fond of the melons that growers are an important element in the national anticoyote lobby.

In the late summer and fall, during grasshopper season, coyotes in the brush were essentially insectivores. At all times they ate some beetles, grubs and other invertebrates. Also, pawing about in rocky places and the leaf litter, they regularly took snakes and lizards. There was not much open water in the vicinity, but we saw signs that coyotes occasionally caught frogs and salamanders around stock tanks.

In wetter parts of the country, coyotes snag fish, turtles and amphibians in shallow waters. Moving up the food chain, they are the most efficient hunters of small mammals. They are able and inclined to sniff out, dig up, ambush, trail, run down, pounce on and overpower all of the rodents and a good many medium-sized omnivores and carnivores as well. Included among their prey, by verified report, are: weasels, skunks, opossums, otters, bobcats, domestic cats and small dogs.

Keeping coatis under surveillance

Throughout most of the year, coatimundis in southern Arizona forage in units of a dozen or more, led and disciplined by mature females. Individually, a coati is about the size of a raccoon, but more agile and aggressive. In groups, coatis are more or less unchallengeable. The tribe we watched shared their canyon territory with at least one pair of coyotes, to which, so far as we could tell, they paid absolutely no attention. The coyotes stayed away from the coatis but, according to various signs and a few direct observations, kept them under surveillance.

Early one morning when the wind was right, I was perched on a ledge at the head of the canyon, watching

Adult coyote sizes up a calf while prowling around a herd of buffalo in Montana. When they prey on large animals, the opportunistic predators usually target vulnerable creatures that are immature, aged or ailing.

two coyotes feed on a cow that had died of natural causes. Shortly the coatis appeared. Unhesitatingly, they marched toward the carcass, holding their long-ringed tails straight over their backs as they customarily do when in a defiant or confrontational mood. The coyotes studied them for a moment, took a few more leisurely bites and then nonchalantly walked away into the brush. The coyotes showed no signs of alarm but, on the other hand, made no confrontational sounds or gestures.

Coyotes are always alert to the possibility of encountering more-formidable beasts who have accidentally or temporarily gotten themselves into situations where they are at a disadvantage and are therefore potential prey for the coyotes. Zoologists Joel Berger and Rebecca Rudman spent five years observing wild horses in the Nevada mountains. On 16 occasions during their study, coyotes closely approached a horse herd. Most frequently, either the horses ignored the coyotes, or the lead stallions made short, threatening rushes that drove them away. There were two exceptions to that pattern. One involved ten coyotes, including five adults. The two largest came within 100 feet of a foal, but retreated when the mare turned to face and glare at them. The coyotes backed off a bit and then, in chorus, began to howl. With the mare and her foal in the lead, the horses turned and ran in the opposite direction. The coyotes did not follow.

The only horse Berger and Rudman actually saw taken by coyotes was a foal born with such severe defects that it could not even stand. Two days after the foal's birth, the mare seemed to lose interest, and the lead stallion moved the band away from the crippled infant. In less than an hour, the coyotes killed and began to eat the foal.

The most astonishing account of coyotes successfully taking big game was given in 1948 by Richard Boyer, then a ranger at Sequoia National Park in California. In the late spring, Boyer and another ranger came upon two coyotes feeding on a freshly killed yearling black bear. A cover of snow provided an unambiguous record of what had happened. The bear was descend-

Bil Gilbert profiled Ruby the painting elephant in SMITHSONIAN*'s December 1990 issue. He has also written recently about the badger and the lynx.*

A yearling plays with a mouse. Coyotes eat many things, but they depend primarily on rodents and rabbits.

Coyote in Michigan nips a raspberry. Eating fruit is easier than hunting animals and expends less energy.

ing a large tree, tailfirst. Finding it in that momentarily awkward position, two coyotes grabbed its rear quarters and pulled it to the ground. After a bloody melee, they killed the bear. When the rangers approached, the coyotes ran away, showing no obvious wounds or injuries.

There is a quality and style about coyotes that I can only describe in blatantly anthropomorphic terms. They remind me of the several truly professional quarterbacks and gamblers I have known. Coyotes are always dispassionately studying their would-be victims, looking for weaknesses in them and an edge for themselves. They are little given to false bravado, blustery or showy challenges. They make their play only when the odds are right. If they don't like their chances they figuratively ground the ball, fold their cards or, literally, go off to eat grasshoppers. Many other people seem to have had somewhat the same impression of the animals. Within the Western Indian nations, oral historians, humorists, fabulists and theologians were fascinated by the cunning, sagacity and what now might be called panache and chutzpah of coyotes. As a principal character in many tales, the coyote was the Trickster, the ultimate confidence artist who bamboozled other creatures for his own gain or amusement. In some myths and legends the coyote was God's Dog, a preternaturally keen observer, sent from on high to keep a close watch on worldly affairs and report back on them to his Master. When European naturalists began to meet the species, they were struck by the same behavioral attributes but described them differently, speaking, as we still do, of the adaptability, opportunistic habits and intelligence of coyotes.

The era of good feeling comes to an end

The first non- Indians to occupy the Western regions—fur trappers, traders, soldiers and then cattlemen—got along reasonably well with coyotes. The animals might occasionally rob a camp or rustle a stray calf, but they were engaging rascals, easy to relate to since their motives and methods often seemed very human. The era of relatively good feeling came to an abrupt end about a century ago. Since then, the coyote has officially been Public Enemy Number One among native animals. A complex of ecological and economic trends brought about this change.

If early Western pioneers found coyotes tolerable, it was otherwise with bears, lions and wolves. Those predators were sometimes directly threatening, and they took enough cows and horses to convince stockmen that the big varmints had to go if the country was to be profitably developed. The major carnivores were shortly eradicated, with only a few survivors holding on in marginal areas. Buffalo were much more

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A 2-month-old cub surveys his realm near family den. Coyote litters may consist of five or six cubs; they are raised by both parents until they can feed themselves.

numerous, in fact, so numerous and large as to be incompatible with civilization. Eliminating them was easier and more lucrative. Quite suddenly the top of the traditional Western food chain was lopped off, and coyotes were promoted to the head of it.

Concurrently, as all students of Western movies know, cattlemen began to face competition from other agricultural interests, most notably sheepmen. Coyotes turned on sheep—and sheepmen turned on coyotes. In 1915 the federal government joined the campaign, appropriating funds so that employees of the then Bureau of Biological Survey (the bureaucratic ancestor of the present U.S. Fish and Wildlife Service) could take to the field against coyotes. From that time on, there has been in existence a national varmint-exterminating service. At present this operation, which is called Animal Damage Control, is a unit within the Department of Agriculture. It employs about 600 people and currently has a $25 million annual budget. ADC operatives shoot, poison, trap and otherwise control a number of other animals, but among mammals coyotes are the major target. In 1988 the feds alone killed 76,050 coyotes. Private citizens, and state and local agencies rubbed out 352,799 more of them. As a conservative estimate, about 20 million coyotes have been "controlled" in this century.

Whether this expensive and seemingly endless war is necessary and worth continuing has long been a matter of dispute. Growers of sheep, goats, watermelons and some other things insist that their livelihoods depend on the controlling of coyotes more or less in perpetuity. On the other side, in addition to card-carrying varmint lovers, a number of zoologists, land managers and wildlife experts argue that the agriculturists consistently exaggerate the damage coyotes do; that the real losses do not justify publicly funded coyote-killing programs; that where depredations do occur they can be greatly reduced or eliminated by improving fences and using guard dogs.

Reviewing the history of the anticoyote campaign recently, Larry Thomas, an ADC wildlife biologist, remarked that while sometimes the numbers of coyotes have been temporarily reduced in some places, "we have had no effect on overall coyote populations." This statement is generally accepted as true, but it glosses over a corollary matter of even greater significance: what the controllers have done *for* coyotes.

In the mid-1960s I had a conversation with the late Starker Leopold, then a professor at the University of California, Berkeley, and one of the most distinguished zoologists in the country. Leopold had recently served as the chairman of a panel convened by the Secretary of the Interior to investigate coyote-control efforts. The report of that group had been very critical. In our discussion Leopold said, in effect, that if for some reason biologists were asked to devise a plan to produce bigger, smarter and more widely distributed coyotes, they no doubt would recommend doing more or less what had been done in the coyote wars. To sum it up: we removed many predators that historically com-

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Snow geese keep wary eye on intruder. Coyote seems nonchalant but is likely sizing up prospects for a meal.

peted with the coyote; we eliminated some of the coyote's traditional food sources, but then, through our agricultural and waste disposal practices, we provided it with new and more varied edibles.

As other animals have done under similar circumstances, coyotes became more fertile when they were pressed hard by exterminators; they bred at an earlier age and produced larger litters. As coyote hunters were among the first to note, the animals also became warier as control efforts intensified. To some extent this may be the result of natural selection, but zoologists suspect that experience, memory and learning are probably more important factors.

Coyotes are intelligently inclined to get out of areas where they are under heavy pressure from controllers. Some leave temporarily, returning to their home ranges when the exterminators have gone or eased up. Other animals emigrate permanently, seeking better and safer places. For many centuries, coyotes were largely restricted to the regions west of the Mississippi between what is now central Mexico and the southern prairie provinces of Canada. By the early 1900s they had extended their range to Costa Rica in the south, to Alaska and adjacent parts of Canada in the north. They commenced pioneering in the latter direction during the 1890s as a direct result of the Yukon gold rush. As thousands of would-be miners mushed north toward those diggings, they were followed by coyotes that scavenged on dead horses, mules and cattle, which were abundant along the hard, cold trails.

During the past 80 years the major coyote movement has been toward the Atlantic Coast. Splendidly adapted to the open, brushy Western territories, coyotes previously had little reason to enter heavily forested areas. However, by the time refugees from the coyote wars began dispersing, people had "prairified" many of the former woodlands, improving them for coyotes as they had for woodchucks. Coyotes invaded those fine new habitats along two broad fronts. Most directly, they advanced from Texas, Oklahoma and Kansas into the Gulf Coast and, in lesser numbers, they invaded regions of the Ohio Valley.

Since their state served as a gateway through which coyotes entered the Southeast, biologists at the University of Mississippi have been especially interested in the species. According to their surveys, coyotes had been moving into Louisiana and Arkansas for some time, but "only isolated individuals were known to exist east of the river before 1975." Those individuals were either massively reinforced from the West or proliferated remarkably. In 1980, trappers took 1,200 coyotes in Mississippi and another 600 in western Alabama.

A loner forages for road kills on a Michigan highway. Scavenging is a common strategy for finding food.

Three years later, 20,000 were trapped in Mississippi, and presently the coyote population of that state is estimated to be in excess of 200,000. Elsewhere, state game agencies report that coyotes are presently resident and multiplying from Mississippi to the Carolinas, from Virginia to Florida.

Coyotes reached the Northeast by a much longer, more circuitous route. It now seems that they commenced pioneering in this direction about 1900. Starting in northern Minnesota, they moved into Ontario directly or after first crossing Wisconsin and the Upper Peninsula of Michigan. From Ontario they migrated to New York. Thereafter, some moved on to New England while others went south into Pennsylvania, New Jersey, West Virginia and western Maryland. Coyotes are now found throughout the New England and Middle Atlantic regions, except in Delaware, where they may shortly be expected. (Hawaii is the only other state without resident coyotes.)

Coyotes in the Northeast seem to have become measurably different animals. Zoologists have found that males average between 35 and 40 pounds; occasionally, 55-pound animals are found. Females weigh between 30 and 35 pounds. Western coyotes of both sexes are typically 20 to 30 percent lighter. Also, Eastern coyotes may be a bit darker in color and have somewhat larger skulls. When they first began to appear in appreciable numbers, it was suggested that these Eastern animals were crosses between true coyotes and domestic dogs. At the time, that theory seemed to make sense. During the past 15 years, however, zoologists have become convinced that the prevalence of these so-called coydogs was greatly exaggerated.

As to why these animals are different from Western coyotes, the presently accepted explanation is that they have a significant infusion of wolf genes. The scenario is that the first few coyotes moving eastward from Minnesota above Lake Superior and across Wisconsin met the last few wolves remaining in northern Michigan and southern Ontario. The animals have the same sexual cycles, and since potential partners of their own species were scarce, they put aside their traditional animosities, mated and raised pups. The descendants of those pups continued the eastward migration. This theory is supported by physical evidence having to do with body size and skeletal characteristics.

Taxonomists are gingerly considering whether the new canine model should be classified as a subspecies of Western coyote or as a coyote that has hybridized with wolves. Whatever the genetic formulas, the animal has established itself as the dominant predator in the East—excluding people, of course.

Arnold Hayden, a wildlife biologist employed by the Pennsylvania Game Commission, is presently monitoring coyote activities in that commonwealth. According to his surveys, the species is found throughout the state, except in the most metropolitan areas. Its numbers are increasing and, Hayden thinks, will continue to do so for some time because considerable tracts of its preferred habitat—fields, meadows and parks broken by hedgerows and woodlots—are as yet unoccupied. In Pennsylvania, as in their traditional Western ranges, coyotes hunt and forage for anything more or less edible. However, Hayden and other Pennsylvania game people have found one aspect of coyote predation particularly surprising: there seem to be far fewer dogs and cats roaming around in the countryside than there were when the coyotes first arrived.

This is supported by many reports from other parts of the East. For example, there is a good coyote population in the northern suburbs of New York City, particularly in Westchester County. Most of the coyote complaints there come from people who know or believe that their lost pets have been scarfed down by the ubiquitous predators.

In many Eastern localities coyotes forage on blueberries, blackberries, apples and peaches. However, as yet they have not taken enough fresh fruit to cause serious complaints. On the other hand, watching them mouse in their fields, some orchardists have become coyote supporters and say they would like them even better if coyotes worked harder at taking deer, which in many parts of the East are a bane for people growing fruit and ornamental trees.

Because of the concerns of sportsmen, there has been considerable research on coyote-deer relations. The gist of it is that coyotes do kill deer—usually, debilitated animals in the winter and fawns in the spring—but feed mostly on carcasses of animals that have died of natural causes or have been shot but not recovered by hunters. Given the size of whitetail herds—excessive in many Eastern states—coyote depredations are thought to be a minor matter.

Again as in the West, Eastern coyotes subsist principally on rodents. Analyses of scats and stomach contents indicate that probably the single most important prey species for them is the woodchuck, which has become so remarkably invigorated in many Eastern localities that it is regarded as the biggest mammalian pest by farmers, gardeners and landscapers. From the viewpoint of the coyote, woodchucks are shmoo-like creatures, large enough to provide one or more meals,

A pack of hungry coyotes snoops for deer carcasses.
The scene might be a frozen lake somewhere out West.

yet not particularly difficult or dangerous to catch. Whereas coyotes in the West must compete for big burrowing rodents with such specialized hunters as badgers and eagles, there is no other wild predator in the East so well suited for preying on woodchucks. Arnold Hayden thinks the prevalence of woodchucks in Pennsylvania insures that coyotes will prosper in his state, and that on the whole they will be well regarded by the general public.

Beyond calls from pet owners who have suffered losses, the only other coyote complaints Hayden has received have come from woolgrowers. He sympathizes: "If I was trying to raise some lambs, I'd be mad if coyotes took them." So far as advice goes, he tells sheepmen they are free to shoot or trap coyotes (there is an open season on them in Pennsylvania), but that a more permanent solution is to give their stock better protection—move the sheep from isolated pastures, guard them with better fences or with dogs. "Basically, we have to learn to adapt to coyotes as they have learned to adapt to us," Hayden emphasizes. "This goes against the grain of some people who are more inclined to fight nature than to find out how to get along with it."

There are no plans in Pennsylvania for a coyote-control program, and there is very little agitation for one. "When I talk to farmers, sportsmen and social groups," says Hayden, "I tell them coyotes are here to stay, and we are not going to get rid of them, and there is no good reason to try. In purely economic terms, they do destroy sheep, chickens and geese. Perhaps this is balanced by the mice, woodchucks, maybe stray cats and dogs they take. They do not present a threat to hunters. Since coyotes appeared, deer, turkeys and rabbits have either increased or their populations have remained stable."

Hayden continues: "On the positive side, I like to talk about what smart, tough, independent animals they are. There is a lot to admire about coyotes. They are a very interesting addition to the fauna of the state. Hearing a pair of them singing on a hillside is an exciting thing. This is a new pleasure for people who enjoy the outdoors."

Traditionally our relations with nature have proceeded from the premise that it is malleable. To satisfy our needs and desires of the moment, we think we can control it whenever and however we want, with predictable consequences. No creature, invigorated, endangered or otherwise, more plainly demonstrates the flaws of that notion than the coyote.

In fact, it's Massachusetts' Quabbin Reservoir, which supplies drinking water to Boston, just 65 miles away.

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By Otto Friedrich

German history, more or less as Germans see it

Often under attack from neighbors, Teutonic peoples of Northern Europe evolved slowly, and were centuries late coalescing into nationhood

Everyone remembers those thousands of Germans dancing on the scarred and pitted remnants of the Berlin Wall. "*Freiheit!*" they shouted, and "*Einheit!*" ("Freedom!" "Unity!"). Television enabled people all over the world to share in their joy. But it was a joy tarnished by nagging anxieties. A friend of mine wrote from Hamburg that her grandson had sent her a chunk of the Wall: "I shall honor it as a souvenir," she said, "but none of us here hopes for a united Germany. It has done too much harm in the past."

However, for the many Germans who celebrate the unification that has now come about, their country's history, at least until the 20th century, is not at all a chronicle of German aggression. Instead, they see themselves as a people repeatedly attacked by belligerent neighbors, especially France in the time of Richelieu and the time of Napoleon.

The Germans first appeared in history as "barbarians," but the word "barbarian" is tricky. It stems from a word the Greeks used to describe anyone who wasn't Greek. And it was the Romans who first attacked the Germanic tribes in the forests of the North, then allowed them into the empire as servants and soldiers. For more than a thousand years, divided by religious strife and internal rivalry, and periodically set upon by France, Sweden and Russia, the people of what is present-day Germany suffered grievously and failed to coalesce into a nation.

That event, rich in future implications for the world, did not occur until 1871. By then, England was a modern democracy, France about to become one. The story of how modern Germany came into being, as their rival and eventually as their scourge, is complex. To simplify, concentrate on three figures: Martin Luther, Friedrich II and Otto von Bismarck.

All three were part genius, part monster. All three ended by contributing to the unification of Germany, though in the short term their efforts sometimes helped divide a territory that long remained a crazy quilt of autonomous baronies and bishoprics, many with different dialects, habits and even coinages.

As early as 12 B.C. the Roman emperor Augustus resolved to subdue *Germania barbara.* But after 20 years of fighting, a Germanic prince named Arminius ambushed the Romans in the Teutoburg Forest in Westphalia, killed 20,000 soldiers and effectively destroyed three complete Roman legions—something that

Watched by East German guards, a West German helps open way to unification by attacking Berlin Wall.

Saxon king Otto I (with plumes) founded First Reich after routing Hungarian invaders at Lech River in 955.

In fateful meeting at the Diet of Worms in 1521, Martin Luther confronted Emperor Karl V and refused to recant his anti-Catholic doctrines. He was then outlawed, and the sale of his books forbidden.

had never been done before. Thereafter, the Rhine, roughly speaking, remained one border of what Roman soldiers would "civilize" (see map, page 87). The historic result: unlike France, Spain and England, the Germanic tribes did not profit from the unifying network of roads, the standardized weights and measures and, above all, the legal system that being part of the Roman empire brought.

These Germanic tribes variously included the Saxons, Franks, Visigoths and Vandals, unconquered by, but attracted to Rome. "We have taught them," Tacitus wrote in one pregnant sentence, "to accept money." In the next few centuries, driven by waves of Hun horsemen sweeping westward from the steppes of Asia, many slipped into the Roman empire as refugees, gradually exerting influence in Rome's endless internal power struggles. In A.D. 476, the Roman empire in the west was supposedly "overthrown" by Germanic tribes. But in fact, Rome had long since been protected, not to say governed, by Romanized Germans. Over several centuries, the Visigoths spread into Spain, the Vandals into North Africa, the Saxons into England, the Franks into France. Three centuries later, it was a Frank, Charlemagne, who traveled to Rome and had the pope crown him on Christmas Day in A.D. 800, reviving the title of Roman Emperor.

The French like to claim Charlemagne as their own, but for Germans he is Karl der Grosse (the Great), and his capital at Aix-la-Chapelle was located in what is now the German city of Aachen. Geographically, Charlemagne's "empire" somewhat resembled today's European Economic Community. Loosely controlled and mostly Christian, it was split three ways among his sons after his death and divided again for their sons. Leadership of the easternmost portion passed to a line of Saxon kings.

The greatest was Otto I, who established an empire that Germans think of as the First German Reich. After handily defeating the invading Magyars (Hungarians) and routing the invading Slavs, he journeyed to Rome to be crowned Holy Roman Emperor in 962. He also deposed the 25-year-old pope, John XII, and installed a successor. For several centuries thereafter, German kaisers (emperors) claimed the right to name popes, though they rarely succeeded in doing so.

While the kings of England, France and Spain slowly began, in the 12th century, to build centralized nations held together by shared customs, royal courts, royal patronage and an established religion, German princes sparred with one another. The most powerful neglected their territories, got embroiled in papal politics and clung to the fantasy of a universal Christian empire. Then, as British historian James Bryce put it, "every floodgate of anarchy was opened: prelates and barons extended their domains by war: robber-knights infested the highways and the rivers: the misery of the weak, the tyranny and the violence of the strong, were such as had not been seen for centuries."

Enter now the Habsburgs. Like the English Plantagenets and the French Capets, the Habsburgs were one of those families with a passion for acquisition. The first Habsburg was chosen Holy Roman Emperor by a

In what is known to history as the Defenestration of Prague, Protestant nobles in Bohemia tossed Catholic representatives of Habsburg emperor out of a window in 1618, triggering what became Thirty Years' War.

collection of German princes in 1273. The most famous, Karl V, born in Ghent in 1500, inherited the Netherlands in 1515 and Spain in 1516, and in 1519 became Holy Roman Emperor. Karl was a devout defender of the faith. In North Africa he conquered the Moors. In Eastern Europe he beat back a Turkish invasion, saving Vienna from Süleyman I (called "the Magnificent" by Westerners), who had been threatening to stable his horses in St. Peter's in Rome. In 1556 Karl finally hung up his sword and retired wearily to a monastery. He could not know that his most important adversary had not been armies of infidels but a tempestuous monk armed with an idea, whom he had confronted at the Diet of Worms (opposite). The monk was Martin Luther. The idea turned into the Protestant Reformation.

Luther was intensely neurotic, perhaps even manic-depressive, subject to paralyzing fears and fits of despair, and arguably prey to what we today would probably call psychosomatic illness. (He claimed, in fact, that he had personally thrown an inkpot at the devil.) Consumed by a sense of guilt, Luther, in time, came to the conclusion that no man could deserve God's forgiveness; God might or might not grant it, but only through His grace. In simplest terms this led to, among a good many other things, the notion that men did not really need the corrupt, indulgence-selling Catholic Church to mediate between Earth and Heaven.

Luther's divisive call for the abolition of the Papacy, his assertion that every Christian could be his own priest, and his belief that a temporal ruler and not the pope in Rome should head the churches in the ruler's territory spread through Europe. As an arch-heretic, excommunicated in 1521 by the Catholic Church, Luther had to hide out for ten months in Wartburg Castle, and there he produced a popular and eloquent German translation of the New Testament. Since it was one of the basic Protestant tenets that the Bible be read by everyone rather than just the clergy, Luther's New Testament provided the principalities of northern Germany with a common language.

The Reformation bitterly and bloodily divided all of Europe. In England and France, however, it also increased a new sense of national independence, especially vis-à-vis the power of Rome. It notably encouraged England's Henry VIII—and many Protestant German princes as well—to feel virtuous about confiscating the riches of local Catholic churches. As the new Protestantism spread, however, it split and subdivided into rival sects—Anabaptists, Calvinists, Zwinglians—which savagely fought one another even as they resisted martyrdom from the Counter-Reformation. In Germany such disputes led to bloodshed and helped tear an already fragmented territory to pieces. As Hitler wrote in *Mein Kampf* more than 350 years later, "While we devoured each other in religious squabbles, the rest of the world was distributed."

In 1555, after the Peace of Augsburg, a religious

The author of 11 books, including Before the Deluge, *a study of 1920s Berlin, Otto Friedrich last wrote on the Munich crisis of 1938 (*SMITHSONIAN, *October 1988).*

In a heroic portrait, King Friedrich II leads his Prussian army at Zorndorf to repel invading Russians in 1758.

truce between Catholic and Protestant actually seemed at hand. Under its terms every prince, Catholic or Protestant, had the right to decide the official religion of his subjects. That accord lasted just 63 years. In 1618 an apparently small act of violence touched off one of the longest, most devastating wars in history.

In Prague that year, as part of steady opposition to Catholic Habsburg power, a group of Protestant noblemen set upon two Catholic Habsburg envoys and flung them out a window. They then elected a Calvinist as king of Bohemia (now western Czechoslovakia), a Germanic principality about the size of Maryland. The Catholic emperor, based in Vienna, quickly chased out this usurper, but the fighting did not stop. It lasted, in fact, for 30 years.

In German memory the Thirty Years' War still lives, in somewhat the same way that the Civil War does in ours. It is the most overwhelming example of the pattern they see in their history—repeated attacks by foreigners. The first invader was King Christian IV of Denmark, invited in by some German Protestants and liberally subsidized by Protestant England. King Christian hoped to make himself the religious champion of Protestant northern Germany, but from 1625 to 1629 the Catholic Habsburgs beat him back.

Next, in 1630, came Gustavus Adolphus of Sweden, another Protestant warrior-prince, supplied with arms and money by France's Cardinal Richelieu, who on behalf of Louis XIII was perfectly willing to sponsor any Protestant cause provided it kept the Habsburgs embroiled in a German civil war.

Finally, the Peace of Westphalia

Richelieu's strategy worked splendidly. In the sacking of Magdeburg alone, 20,000 people were killed. When King Gustavus Adolphus fell in the Battle of Lützen in 1632, France actually had to commit French troops to the cardinal's pet project, a sacrifice that kept the war hot for another 16 years. When the Peace of Westphalia was at last signed in 1648, France stood predominant in Europe. What is now modern Germany lay in ruins. Once-rich fields had reverted to wilderness; packs of wolves roamed the countryside; there were even reports of cannibalism. By most estimates, the population had been reduced from perhaps 16 million to less than 10 million. Some 350,000 people died by the sword, the rest from famine and disease.

The Habsburgs still held family territories, German-speaking Austria as well as Bohemia, but they had failed to repress Protestantism or create a Catholic German state. The Holy Roman Empire (Voltaire would later describe it as neither holy nor Roman nor an empire) had been reduced to a shadow. The Peace of Westphalia granted virtual sovereignty to the more

The high point in Germany's "Wars of Liberation" was the Battle of Leipzig in 1813, in which Napoleon's armies were beaten and forced to retreat back into France. The French occupation had lasted seven years.

Map shows First German Reich, established by Otto I in the tenth century; the Second Reich, begun in 1871 after Bismarck and von Moltke defeated France and brought German territories under control of Prussia; the Habsburg Austro-Hungarian Empire in the 1870s; and an outline of Germany today, after unification.

Bismarck sat for portrait shortly after he had united Germany, crushed France and created the Second Reich.

Overwrought Gallic painting of Siege of Paris shows ignominy of France and feckless Emperor Napoleon III.

than 300 dukes, counts, margraves, barons and bishops who ruled the principalities that made up non-Austrian Germany, a pseudo-union of territories that had for many years been prey to intimidation or outright invasion by Richelieu's master, the Bourbon king of France.

With the Habsburgs temporarily chastened, German history now begins to focus on another fateful family, the Hohenzollerns. Based in the area of Berlin and linked by marriage to the remote province of East Prussia, the Hohenzollerns already dominated a half-dozen German principalities, eventually including some far to the west along the Rhine. It was a Hohenzollern, King Friedrich Wilhelm I, who, by turning Prussia into a powerful state, took the first step toward the creation of modern Germany.

He came to power in 1713 at age 25, inheriting an empty treasury and a small army, which he dramatically expanded. Friedrich was not lovable. He flogged his soldiers and lashed out with his cane at citizens in the street. In his political will, the king ordered his son to avoid "idle, effeminate lives." Otherwise, he warned, "may your fate be that of Absalom."

Not unnaturally, the son, Friedrich II (later Friedrich der Grosse), hated his father. By the time he reached the Prussian throne at age 28, in 1740, he was a formidable figure—hard, cynical, cunning. He set Prussia firmly on a course that would establish himself as a rival of the Habsburgs. The process led to a reputation for iron discipline and territorial aggression that Germany still has today. It also made him the most famous soldier-prince in Europe.

The Catholic Habsburgs were still a threat to Friedrich's ambitions, so it was against them that he first turned his hand. With a splendid army, he invaded Habsburg-owned Silesia and beat off all Habsburg efforts to regain it. Empress Maria Theresa, who had succeeded to the Habsburg throne in Vienna, began

building a coalition against Friedrich, winning the support of the French, the Swedes and Russia's Empress Elizabeth. Friedrich managed to recruit only one major ally, Britain, which was, as usual, trying to maintain a balance of power in Europe. He demanded a guarantee that Maria Theresa had no plans to attack him. When she gave an evasive answer, Friedrich attacked first. "If our enemies compel us to fight," he said to an official who advised caution, "we must ask not how many but where they are."

The immediate result, in 1756, was the Seven Years' War (its counterpart in North America was known as the French and Indian War). Though greatly outnumbered, in the first year of the war Friedrich's forces managed to crush the invading French at Rossbach, raced on to triumph over the Austrians near Breslau, then, the following summer, stopped the Russians at Zorndorf.

France expended most of its energy in colonial wars with England in North America and in India. But Maria Theresa and Elizabeth pursued Friedrich implacably. He fought valiantly—in one battle, two horses were shot from under him; in another, three—but the war went on. His campaign letters began to sound gloomy indeed. "There is nothing to show on either side," he wrote in 1758, but "the ruin of provinces, the pillaging and burning of flourishing towns. . . ."

Despite the death of the Russian empress, from alcohol and dissipation, the Seven Years' War dragged on. In the end, Friedrich triumphed mainly in that he had survived at all. A decade later, in 1772, he joined Russia and the highly flexible Maria Theresa in a balance-of-power move known to history as the Partition of Poland. "The Empress and I are two brigands," Friedrich remarked. For his brigandage he got West Prussia, a territory of 20,000 square miles and 600,000 inhabitants, thus connecting, for the first time, the Hohenzollern domains of East Prussia and the Brandenburg lands around Berlin. Eventually, Poland all but disappeared from the map of Europe.

A brigand—but a cultured one

Friedrich established Prussia as a major power and made Berlin one of the great capitals of Europe. A benevolent despot, he created the Berlin Opera, revitalized the Academy of Sciences, composed music for the flute, wrote poems and plays and histories (in French), and persuaded Voltaire to live in Berlin, to converse with him. It was Friedrich who sponsored the first modern German code of law, appropriately called the Codex Fridericianus, and laid the foundation for the legendarily efficient Prussian civil service.

Friedrich had not been trying to create a nation called Germany. He was confronting Habsburg power and consolidating the kingdom of Prussia. When he died in 1786, England had been a nation with a powerful parliament for a century. France was about to plunge into a popular revolution that would create a republic and, under Napoleon I, change the face of Europe. The United States had already thrown off England's yoke to create the first modern democracy. But the various segments of Germany, not yet even a real confederation, were officially part of a loose collection of disparate German-speaking units jointly dominated by Prussia and Austria.

Napoleon's revolutionary armies soon struck those segments like a thunderbolt. Marching eastward, Napoleon crushed the Austrians at Austerlitz in 1805 and the Prussians at Jena in 1806. He took over all Prussian territories west of the Elbe and created the Confederation of the Rhine, with his brother Jerome featured as king of Westphalia.

Defeat opened the way for reform. Though Fried-

France's Cardinal Richelieu was prime mover of attacks on Germany.

Habsburg empress Maria Theresa fought Prussia in Seven Years' War.

Napoleon I took Germany, made brother Jerome king of Westphalia.

rich's grandnephew, Friedrich Wilhelm III, objected, his chief minister, Baron Karl vom und zum Stein, liberated the serfs and granted self-government to all German cities under Prussian rule. Gen. Gerhard von Scharnhorst began to give Prussia something like a modern army, based on universal service. That army helped check Napoleon at Leipzig in 1813. Germans still remember the victory as the turning point in what they call the Wars of Liberation.

After Waterloo in 1815, Prussia shared in the spoils of Napoleon's defeat, which included Prussia's reinstatement as a major European power. Prussia was still only one kingdom, however, in the German Confederation, established by the Congress of Vienna in 1815 to replace the remains of the Holy Roman Empire. The Confederation included 5 kingdoms, 7 grand duchies, 10 duchies, 4 free cities, and various other bits and pieces—39 political entities in all.

In the midst of the Napoleonic crisis, Friedrich Wilhelm III had promised to allow the creation of a Prussian constitution and a legislature. Once order had been restored, he reneged. In 1847 his son, Friedrich Wilhelm IV, permitted the election of Prussia's first United Diet—he needed money to build a railroad line to East Prussia—but as soon as the Diet tried to assert itself about taxation, he closed it down.

In 1848, when revolution in the name of liberty and popular self-government broke out in France and spread all over Europe, it touched Berlin. Crowds marched through the streets, the army opened fire, the crowds erected barricades. Reformers managed to elect an all-German parliament—the first ever.

This rather distinguished collection of lawyers, professors and merchants assembled in the city of Frankfurt and proceeded to draw up a fairly liberal, all-German constitution. Since the Habsburgs were then heavily distracted by revolt in non-German-speaking territories, such as Hungary and Bohemia, the drafters of the German constitution figured they had a better chance of actually putting it into effect by offering the German crown to the king of Prussia.

Friedrich Wilhelm IV scorned their offer; he considered himself king by God's grace; the idea of accepting a title from the people was beneath him. The all-German constituent assembly was forced to disband. With it the liberal ideal of an all-German legislature—and even of a united Germany—collapsed. About all that remained was a patriotic poem penned in 1841 by a professor named August Heinrich Hoffmann von Fallersleben, set to a stately, high-minded hymn by Franz Joseph Haydn. It began "*Deutschland, Deutschland über Alles . . .*"

Yet the stage had been set for the birth of modern Germany, and its principal actor, Prince Otto von Bismarck, was waiting in the wings. In retrospect, Bismarck has acquired an air of massive military authority, complete with spiked helmet and bristling white mustache. The reality was different. Though he loved uniforms and fought at least 25 duels during his rather wild days at the University of Göttingen, Bismarck tried to escape from his year of required military service by pleading weakness in his right arm.

He loathed the cosmopolitan decadence of cities, loved the lonely Prussian countryside and, like Lewis Carroll's walrus, was given to bouts of weeping. Tempestuous, arrogant, deceitful, rude and sometimes charming (he even charmed Queen Victoria), he was also a brilliantly original thinker. Summing up their long relationship, Kaiser Wilhelm I, grandfather of the man who plunged Germany into World War I, remarked, "It is not easy to be emperor under such a chancellor."

In an age of reform, young Bismarck first made his

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name as an archreactionary. His maiden speech to the Prussian Diet, given at the age of 32, challenged the liberal notion that the Prussian people had fought against Napoleon's armies mainly because the king had promised them a constitution. When this provoked an outburst of disapproval from the legislators, Bismarck picked up a newspaper and stood reading it until they quieted down. Duly impressed, Friedrich Wilhelm IV sent Bismarck as his envoy to Frankfurt to deal with the legislature of the loose German Confederation.

Until then Bismarck had naively regarded Austria and Prussia as equals in the leadership of a fragmented Germany. He soon realized that the Habsburgs accepted no such idea, and he viewed Austria as a threat to Prussia. The future prospect, he decided, had only two possible forms. One was an Austrian-dominated *Grossdeutschland* (Greater Germany), which still sounded a bit like the Holy Roman Empire and might or might not include the Habsburgs' non-German possessions in Hungary and Italy. The other was a Prussian-dominated *Kleindeutschland* (Lesser Germany), without Austria. The latter arrangement was capable of more cohesiveness and more likely to produce a modern nation. "Before very long," he wrote in 1856, "we shall have to fight for our lives against Austria."

According to British Prime Minister Benjamin Disraeli, Bismarck told him: "I shall declare war on Austria, dissolve the German Confederation, subjugate the middle and smaller states, and give Germany national unity under the control of Prussia." After that, of course, it would be time to deal with the France of Napoleon III, which stood in the way of Germany's rise to supremacy in Europe.

His first chance came in 1864 during a complicated conflict over the tiny duchies of Schleswig and Holstein, largely German in speech and population but actually owing allegiance to the king of Denmark. When rival branches of the ruling family claimed succession, Bismarck took the opportunity to join with Austria in attacking Denmark and seizing both duchies. Thanks to his maneuverings, the two aggressors soon quarreled over their plunder. King Wilhelm I did not want war, but Bismarck said he had no choice. It was a great gamble; he explained that the future of a Lesser Germany, free of the Habsburgs, was at stake.

Happily for Bismarck's plans, the Prussian Army was commanded by Gen. Helmuth von Moltke, a military genius (still untested). Von Moltke had equipped his infantry with a breech-loading rifle (the Austrian government had rejected it as too expensive) that could fire six shots to every one from Austrian muzzleloaders. He had also studied the American Civil War, and understood that the railroad and telegraph had changed the whole nature of military strategy. Only two weeks after the declaration of war on Austria, in June 1866, his three main columns converged by train on the Elbe, forcing the Austrians to make a stand outside the village of Königgrätz.

The huge confrontation—nearly half a million men in the field, and 1,500 guns—became a slaughter. In 20 minutes some 10,000 Austrian soldiers were killed. Though the Austrian empire spent another 50 years sliding into final decay, its real power ended at Königgrätz. Bismarck dissolved the German Confederation, specifically excluding Austria from it, and the Habsburgs' imperial vision of a *Grossdeutschland*

Napoleon III, a threat to Prussia, was driven from power by Bismarck.

Kaiser Friedrich III described Bismarck's methods as unscrupulous.

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Tableau of Teutonic triumph occurs January 18, 1871, in the Palace of Versailles as the victorious Germans ask King Wilhelm I of Prussia (on dais) to become kaiser of the new Second German Reich. Bismarck (in white) and von Moltke face him.

collapsed. The future of modern Germany lay in *Kleindeutschland.*

Having won, Bismarck set about reorganizing a new North German Confederation, the patchwork of independent entities that had yet to become Germany. Prussia, as the predominant power, quickly gobbled up such Austrian allies as Hanover, Nassau and Frankfurt, thus establishing for the first time a unified Prussian territory extending from the Rhine to the Vistula. Southern states, such as heavily Catholic Bavaria, Baden and Württemberg, were allowed to remain independent, at least temporarily; Bismarck could do nothing about them at the time without provoking Napoleon III's outrage and French intervention.

A statesman's mission, Bismarck once wrote, was to "wait and listen until he hears the rustle of God's skirts, then leap up and grasp the hem of the garment." As Bismarck saw it, Germany's final triumph required the defeat of France, a country whose policy since the days of Richelieu had been to keep Germany divided. Listening for the telltale rustle in 1870, Bismarck heard it in an odd place, the court of Madrid. Dissolute Queen Isabella II, the last of the Bourbons, had been overthrown, and now various generals were secretly offering the Spanish crown to Prince Leopold, heir to a minor branch of the Hohenzollern family.

Leopold apparently did not want to be king of Spain. But Bismarck needed a provocation by France to unite and inflame German feeling. When the French learned that a Hohenzollern might soon succeed the Bourbon dynasty in Madrid, they angrily moved to prevent it. Maneuvering in the background, Bismarck altered the text of a diplomatic message to make it seem as if Prussia's King Wilhelm I had been insulted by—and had rebuffed—the French ambassador. On July 19, 1870, the French foolishly declared war. Crowds marched through the streets of Paris, waving torches and chanting "*A Berlin!*" ("To Berlin!")

Von Moltke was ready; Napoleon III was not. Using his new railroad lines, von Moltke deployed nearly 300,000 men along the French frontier, then marched across it. The opening clashes were not as one-sided as later history has implied. But when the French commanders, who wisely planned a strategic retreat, were foolishly ordered instead to advance, von Moltke was overjoyed. In three days he moved 150,000 men around behind the French lines, trapping their entire army at Sedan on the Meuse River—not far from the point where one of Hitler's armies would break through in 1940. Napoleon III spent a day vainly courting death in the most perilous centers of combat. When the battle was over, he sat in his carriage in a potato field, offering to surrender himself and more than 100,000 of his troops.

Bismarck hurried to greet him and to accept victory gracefully. A new French government took over and went to Tours to conclude the peace. Von Moltke was determined to march on Paris, however, because a republican government there insisted it would fight on, no matter what the deposed French emperor did. On September 20, the Prussians laid siege to Paris, expecting the city's swift surrender. The siege lasted until January 28, 1871. Parisians cut down trees in the Bois de Boulogne for firewood, and sorrowfully killed and ate Castor and Pollux, the beloved elephants in the Paris zoo. Victor Hugo even published a recipe for rat pie.

As Bismarck planned, the important consequence of overwhelming victory in 1870 was to give impetus to the unification of Germany. Most of the Confederation's independent principalities had followed the Prussians into battle—indeed, there were 20 German princes overlooking the battlefield at Sedan. Von Moltke's smashing victory also strongly suggested to independent Bavarians, Swabians and Hessians that now was the time to subscribe to the new power in Berlin. On January 18, 1871, while Prussian artillery bom-

barded Paris, a climactic scene took place at the Bourbons' Palace of Versailles (opposite). There the south German princes asked King Wilhelm I of Prussia to become kaiser of all Germany. Wilhelm didn't want the title, but Bismarck bullied him into accepting it. In Germany Bismarck's creation is known as the Second Reich.

Bismarck had accomplished everything he set out to do, but even among Germans there was something in his unscrupulousness that seemed to taint the achievement. "Bismarck has made us great and powerful," said Crown Prince Friedrich, Kaiser Wilhelm's peace-loving son, "but he has robbed us of our friends, the sympathies of the world, and—our conscience."

Only three months after Friedrich III finally reached the throne in 1888, he was dead of throat cancer. In what turned out to be a tragedy for Germany and the world, the crown passed to his temperamental and bellicose 29-year-old son, Kaiser Wilhelm II. With the powerful nation that Bismarck had created, he set a course that led directly to the slaughterhouse of World War I (and, as we now see, to Adolf Hitler's Third Reich and World War II).

"What experience and history teach," Hegel once wrote, is "that people and governments have never learned anything from history." Indeed, today, some Europeans fear that German energy and power may yet lead to a Fourth Reich. Perhaps so. But the two Germanys, now reunited after nearly a half-century of reasonably peaceful behavior, appear to look back at Hitler's Third Reich with horror. They will both sing to the tune of "*Deutschland, Deutschland über Alles . . .*" of course, though those actual words have been officially forbidden since 1949. But the music will still thunder and stir the blood. There is a different text now, taken from the third verse of the original poem. "*Einigkeit und Recht und Freiheit,*" it begins, "Unity and justice and freedom."

Today the complexities of Germany's history are still obscured by raw memories of Adolf Hitler and by the terrible cost and cruelty of his drive to make the Third Reich master of Europe for a thousand years.

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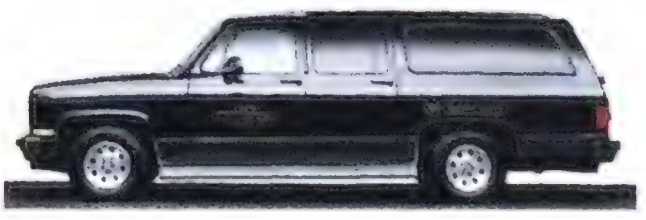

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By James Nelson

'Dave Henderson was becoming an embarrassment'

A few too-racy items in his alma mater's class notes, and an elusive son of Eli, class of '43, had to be discreetly done in

I didn't want to kill Dave Henderson. Though I didn't know him well, I had grown surprisingly fond of him. For six years, I excerpted his many newsy and colorful letters for inclusion in the class notes column that appears in each issue of the *Yale Alumni Magazine*. I had, in fact, taken a certain vicarious pleasure in his opulent and sometimes slippery escapades. The powers that be, however, did not share my feelings. Henderson was becoming an embarrassment to his—and my—university.

Dave hadn't always been such a thorn in Yale's side. In fact, during the first 41 years following the graduation of the class of '43, Dave left Yale entirely alone. *Lux et Veritas* was nothing to him, it appeared. No one in the class reported hearing from him; he sent no news to the class secretaries, and he sent no money to the alumni fund. Moreover, when it came time to bring out a new class directory, Dave didn't even bother to send along his address.

It was as if he didn't even exist.

It was not until early 1984, in fact, 18 months after I'd taken on the task of assembling class notes for the alumni magazine, that anyone heard from Dave.

His first message came in the form of a short postcard from Mexico. Dutifully—and more or less innocently—I included the following in my column:

> Writing from his winter home in Cancun, DAVE HENDERSON reports that his company finally lost its long bout with Chapter Eleven. Says Dave philosophically, "I didn't really mind—I was sick and tired of trying to breathe life into the damned thing!" Dave says he had several pleasant conversations with two class members he met at the Betty Ford Institute last fall."

A month later a second communication from Dave appeared. This time his tone was more mellow, and he extended the first of many hospitable invitations to his classmates, indicating, I felt, his desire to rejoin our world. I included it in the June 1984 issue:

> From Cartagena, Colombia, DAVE HENDERSON writes: "Marge and I flew down to the boat early this year to escape the Mexican heat. We plan to cruise the East Coast of South America for awhile, but we'll be back home in Cancun by October first, with plenty of Margaritas and spare bedrooms for all visiting '43-ers. . ."

Early that fall, I had another note from Dave. Before I give it to you, though, a few words about class notes in general. As everyone knows, they are a very popular item in every alumni magazine. No matter how relevant or flashy the editors try to make their lead articles, the first thing alumni turn to—if they turn to anything at all—is the back of the book where the class notes are buried. The habit is so addictive that people often find themselves reading about the lives of classmates they've never met or about alumni in other classes. Hard-core class notes junkies even read about the alumni of other schools. I've heard of a man, 40 years on, who for some reason still keeps track of the doings of his wife's Wellesley classmates, a number of whom he used to date.

But if your class notes are anything like mine, in a class of 850 there are 25 active, extroverted, well-placed members whose names seem to appear in the column—in boldface—in each and every issue. There are also 825 normal folk, drudges and geniuses alike, whose names, since graduating, have appeared once or, more likely, not at all. This isn't elitism on the part of the class notes secretary. Several times a year, every member of the class is encouraged, nay hectored, to send in news of himself or other classmates. The 825 average Joes (and where applicable, Jills) ignore the request. The active, voluble 25, on the other hand, send in their news. And send, and send, and send.

The nature of the news, of course, has something to do with it. If you've just been named to the boards of three Fortune 500 companies and your youngest son

"Dave hadn't always been such a thorn in Yale's side. During the first 41 years following the graduation of the class of '43, Dave left Yale entirely alone. *Lux et Veritas* was nothing to him, it appeared."

Illustrations by W. B. Park

has reached the quarterfinals at Wimbledon, you're a bit more likely to send your news in than if you've been in the same nothing job for 29 years and your kids are still tie-dyeing T-shirts.

To be perfectly honest, a principal reason I took on the class notes job was to search for the silent 825. I wanted to hear about what they were doing. Thus, I sent out flight after flight of letters, trying to pry news from them. To classmates I knew, I made the letters personal. Others I tried to stir into action by referring to some item from our class book, published at the time of our graduation more than 40 years ago. "Do you still fence?" I would ask. "Have you kept up your interest in drama?" "Do they still call you 'Stumpie'?"

As a further incentive, I included a self-addressed, stamped envelope, in the deluded hope that my Yale classmates, moved by the appeal, would instantly scribble a few lines and mail them off. No dice. For every 20 letters sent out, I got back—well, maybe 2. There are days, indeed, with deadline near and copy short, when a class secretary may feel a strong urge to invent. In any case, had a few more of the uncommunicative 825 replied to my requests, Dave Henderson might never have turned up in the *Yale Alumni Magazine*. And I, as a result, would not have been compelled to take his life.

His November 1984 note, unlike his first, was as lively as could be:

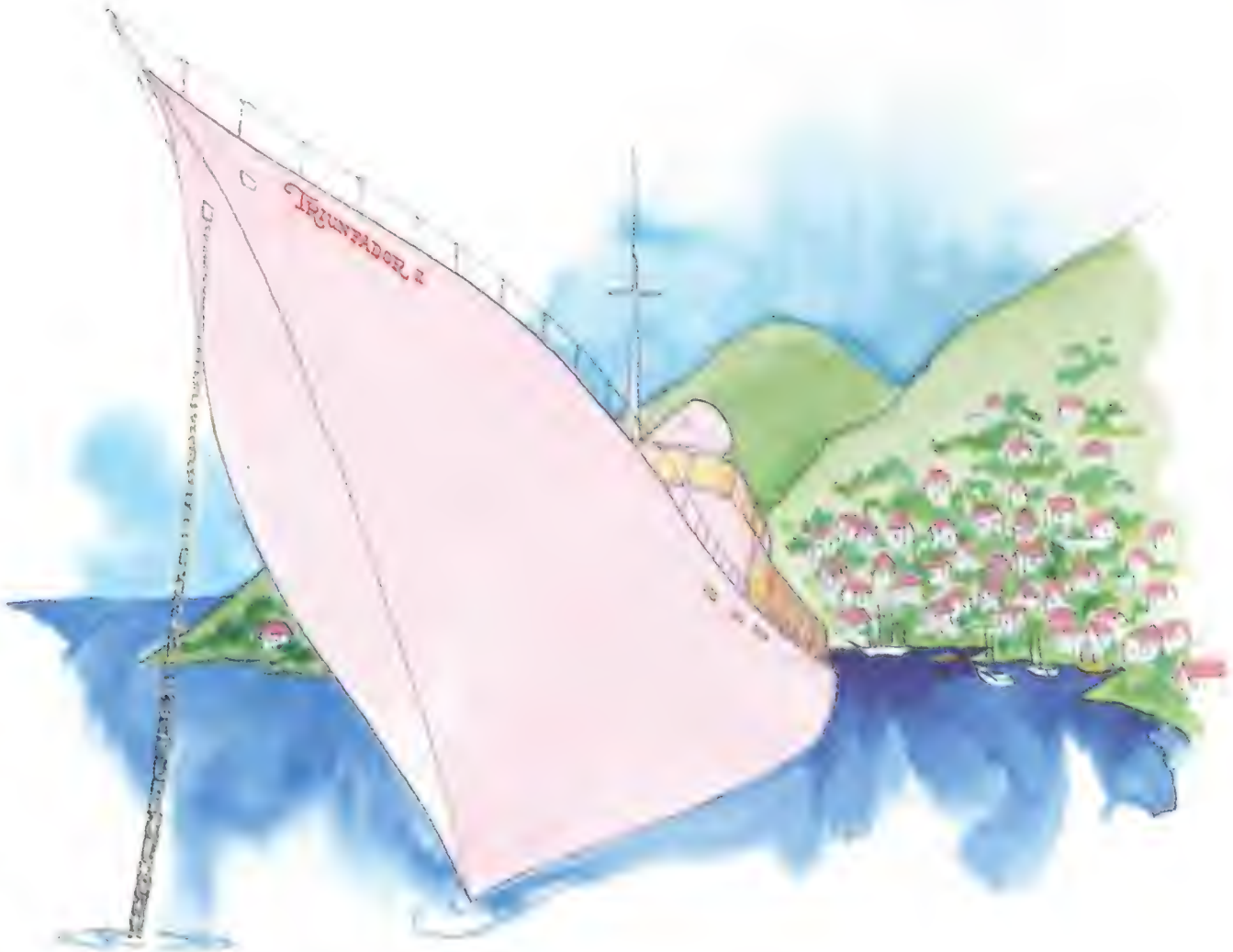
> "Back in Cancun earlier than expected, thanks (no thanks!) to Marge and self having been put under 'boat arrest' for ten days in S. João do Monte, a tiny port town north of Recife (east coast of Brazil) for suspected trafficking in 'illegal substances.' The whole thing was poppycock, of course, and ended only after we gave a lavish party on the boat for the entire police department, their wives, girlfriends, and God-knows-who-else! The incident shook us up, nevertheless, and we flew home, leaving the crew to take our boat back to Cartagena. Still hoping some '43-ers will look us up in Cancun this winter."

Dave's messages kept coming. It was as though, having finally pulled the stopper from the bottle, he couldn't keep the contents from gushing forth.

April 1985:

> From even further south—south of the border, in fact—DAVE HENDERSON sends several color photos of his fabulous Cancun home, together with the following note: "Marge and I plan to have the whole family here for Easter, provided the court will modify the terms of our daughter Sondra's parole to permit her a brief trip out of the U.S. If she gets turned down, we'll gather instead at the Plaza for a week, in which case I'll hope to catch up with a few venerable New York '43-ers whom I haven't seen since New Haven days. Incidentally, watch for Sondra's book, *Triplecross!*, which will be out in September. I believe it will cause quite a stir in the intelligence-gathering community. . ."

"Back in Cancun earlier than expected, thanks (no thanks!) to Marge and self having been put under 'boat arrest' for ten days in S. João do Monte, a tiny port town north of Recife, for suspected trafficking in 'illegal substances.'"



"Marge and I plan to fly to Italy. . . . We'll be anchored a great many nights in the little harbor at Portofino, and would be happy to have any touring members of '43 who find themselves in that lovely spot come aboard for a drink or a meal . . ."

June 1985:

Heading west across the Caribbean to Cancun, Mexico, we have this report from **Dave Henderson**: "I hope none of my classmates gave credence to the recent and extremely scurrilous *Wall Street Journal* story about the demise of my company. In spite of the fact that they didn't actually use my name, I found their raking of coals now dead for nearly two years both unnecessary and reprehensible. Their further gall in printing a totally unfounded rumor that certain senior officers had delayed the Chapter Eleven filing until they could siphon off the assets represents the most irresponsible kind of yellow journalism! A pox on them! On a much happier note, Marge and I plan to fly to Italy and spend the entire month of June aboard our boat, *Triunfador II.* We'll be anchored a great many nights at Portofino, and would be happy to have any touring members of '43 who find themselves in that lovely spot come aboard for a drink or a meal. . ."

Apparently no one showed up in Portofino. At least Dave did not mention a reunion in any of the letters that followed the Mediterranean trip, such as this one from February 1986:

Received a note and a wedding snapshot from **Dave Henderson**, wintering in his palatial home in Cancun, Mexico: "Just back from a quick trip to Paris to attend our daughter Karen's wedding to Attilo Katakunle, number three man in Zaire's Ministry of Tourism. This is Karen's third marriage, and we are hopeful that Attilo's sense of humor and impressive good looks—he's 6'7", 290 pounds—mean that he is Mr. Right for her. . . . they will go to Zaire in late spring for the birth of their child in the capital city of Kinshasa (formerly Leopoldville), following which they will journey to the interior to spend a month in Attilo's village where, as nephew of the Chief, he is regarded as royalty."

After a longer than usual silence, I received the following report of the Hendersons' hectic life:

Finally, from Cancun, Mexico, **Dave Henderson** writes: "A busy winter with many visitors. Burt Lancaster was with us for a long weekend while starring in a TV miniseries being shot in Mexico

The author, Yale '43, once served as class notes secretary for the alumni magazine. Mr. Henderson, he insists, is the only person he has ever killed.

"Having Imelda as a guest is quite an operation. Her security people check out the premises. When Herself arrives, she comes complete with secretary, maid, hairdresser, three bodyguards, and a driver!"

City. He was followed by Imelda Marcos and her entourage, who stayed nearly ten days. Having Imelda as a guest is always quite an operation. Her security people arrive a week early to check out the premises and environs, and when Herself arrives, she comes complete with personal secretary, maid, hairdresser, three bodyguards, and a driver! The driver, Tony, occasionally doubles as a gourmet cook. This time Tony had just returned from a refresher course in Evasive Driving Techniques at the Bob Bondurant School of High Performance Driving near Sonoma, Cal. He gave us a demonstration using our stretch limo, which he spun around as though it were a sports car!"

Dave's letter concluded, as always, with an open invitation to his classmates: "Incidentally, Marge and I are still hoping a few '43s will find their way here this spring for a week, a weekend, a meal, or whatever, plus some pleasant reminiscing. . ."

Not long after Imelda's sojourn, the Marcoses' position in the Philippines deteriorated considerably. In a subsequent issue, Dave commented: "You can imagine the shock Marge and I feel over what has happened since Imelda's visit to us last December! . . . After all that she and Ferdie did for the Philippine people, it seems their ingratitude knows no bounds!"

I was beginning to wonder if Dave's classmates had taken any notice of his letters or of his invitations. Certainly by now *someone* should have contacted me to ask for Dave's address. Even if he hadn't been well known as a student, I thought his recent letters should have piqued his classmates' interest just a little. Apparently, however, his activities had not been sufficiently remarkable to cause a second thought.

In December 1986, I printed the following:

Enclosing a color snapshot of his 54-room *palacio* in Cancun, Mexico, DAVE HENDERSON writes: "Marge and I are heartsick that in July, pirates boarded our motor-yacht *Triunfador II* as it was passing through Malacca Straits, stripped it clean, and then opened the sea valves, sending the most comfortable cruiser we ever owned to the bottom of the sea. Two of the crew were killed scuffling with the boarding party, and the remaining ten were put off in lifeboats with little water and no food. They drifted 36 hours before being rescued. Fortunately, Marge and I had disembarked in Dar es Salaam and flown back to Johannesburg to check on some of our investments. We are now battling with our Panamanian insurance company about the sinking—they claim it was an act of God! Meanwhile, in Kobe, Japan, we have laid the keel for a new, much larger vessel. We hereby officially issue an invitation to all '43-ers in the area to attend the party when *Triunfador III* comes down the ways, God willing, in July of '87. . ."

Shortly after this note appeared, I received the letter I had been waiting for. A classmate wrote, wondering why he had been unable to locate Dave's name in the most recent class directory. But that was the only inquiry. "Who is Dave Henderson?" did not seem to be a burning question for the members of the class of '43.

If the readership of the alumni magazine had been limited to Yale alumni, Henderson's little notes to his classmates clearly would have caused no stir. But when one of his letters was reprinted in the *San Francisco Chronicle* the pot began to boil. The letter appeared in the daily column of the *Chronicle*'s venerated Herb Caen, under the title "Monday's Mildewed Memos." The item opened with the words "Dave Henderson has it made!" after which it quoted a letter from Dave, word for word as it had appeared in the alumni magazine:

I have a long letter from DAVE HENDERSON, with pictures of the launching of his new boat, *Triunfador III*. Says Dave, "Our shiny new putt-putt was to have been 163 feet overall, but after Marge's father kicked the bucket last year, we

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"Pirates boarded our yacht, *Triunfador II*, passing through Malacca Straits, stripped it clean, and then opened the sea valves, sending the most comfortable cruiser we ever owned to the bottom of the sea."

> figured we could go another 30-40 feet. So, we redid the whole plan, and now it's 197 feet stem-to-stern, fitted out with every electronic marvel known to man, and furnished like a Sultan's harem! I feel like a kid with a new toy, and so does Marge! The other day she walked into the owner's suite—the whole thing's done in white-on-white—collapsed on the bed, and began to cry, she was so happy! Incidentally, we've got a wonderful new chef on board, and we're heading for Italy and the Cote d'Azur in May. Any '43-ers who spot us in one of the harbors in that neighborhood are hereby invited to come aboard for drinks and some of Andre's gourmet chow . . ."

Caen closed with the comment "Hold the Boola-Boola soup, Andre, and pass the Mothersills—I'm feeling a bit queasy."

Soon thereafter, a concerned Yale graduate wrote Yale president Benno C. Schmidt jr. and enclosed a copy of the Caen column. The letter commented, first, on the poor taste exhibited by the Hendersons in lengthening the *Triunfador III* by 34 feet as a direct result of the death of Marge's father and, second, on Dave's even poorer taste in writing about it. Implicit was a third comment—on the notes secretary's poor taste for having included the item, and on the alumni magazine's for having printed it.

A short time later, Dave's letter gained a national audience. The *New Yorker* reprinted it as a column filler under the provocative heading "Department of Life Styles (Old Eli Division)." This time Dave's letter had company, a note from the Yale class of '44 concerning one Larry Vaughn.

Vaughn sounded as if he might have been a good friend of Dave's. For one thing, he had been canny enough to get out of the market before the October '87 crash. For another, he had left his wife, Claudine, and daughter Fleur at their comfortable villa in Porto Cervo, Sardinia, while he spent two years high in the Himalayas, in Nepal's Chonro Lamasery, where, he reported, he was finding himself anew and meditating on the future.

Larry Vaughn shared another important characteristic with Dave Henderson. I could not find his name in the *Yale Alumni Directory*.

This odd coincidence did not surprise me. Though I'd never heard of Larry Vaughn, I'd already learned that David Henderson was not as unique as he seemed. A few months earlier, my wife and I had been entertaining Osborne Day, then our senior class officer, at our home in California. Over dinner, some wine and a discussion of the trials of corresponding secretaryship, Oz confided that some years earlier, when he had had my job, he had invented a classmate.

I could hardly believe my ears. I pressed him, and

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"If you can believe it, the winds actually *emptied* our Olympic-size swimming pool, then the rain filled it halfway-up again! Two barns, one guest house, and the airplane hangar were completely blown away!"

although Oz couldn't remember the chap's name, he did remember that he had put him into the Foreign Service and sent him to a U.S. Consulate in some Caribbean republic. Finally, he had thrown the poor fellow into jail (quite unjustly, of course—mistaken identity or something like that), and there the man languished, probably to this day. In one of his columns Oz urged classmates to write their beleaguered classmate and cheer him up.

I refilled Oz's wineglass.

"Oz," I said, "let me tell you about Dave Henderson."

The inventor of a bogus classmate is subject to one omnipresent fear: discovery. But he has an even greater fear: the possibility that discovery may never occur. He wants to know that at least *one* reader has felt that the events described are not the normal activities of a member of the class of '43. Thanks to Herb Caen and the *New Yorker*, as querying letters began to pour in from across the country, this latter fear, at least, was allayed.

What could I do but press on? In the December 1988 *YAM* another Henderson letter appeared:

> From Cancun, Mexico, DAVE HENDERSON sends a hurried note: "You can't imagine the damage Hurricane Gilbert inflicted on our spread here! If you can believe it, the winds actually *emptied* our Olympic-size swimming pool, then the rain filled it halfway-up again! A number of outbuildings—two barns, one of the guest houses, the airplane hangar—were completely blown away! I am talking to several highly-placed government people in D.F. (Mexico City) about disaster relief. . ."

The next column with word from Dave was for the May 1989 issue. But when the May column appeared in print, Dave's item was not part of it. I sent a note to the alumni magazine: "Sorry my copy ran so long you had to cut it. I assume the unused matter is in the overset, available for my next opus. . . ." No reply.

I queried again and received a cryptic response: "I think the overset might be termed a sleeping dog."

It was then I knew I would have to kill Dave. His time had come. But I wasn't sure quite how to do it. Should he fall overboard from *Triunfador III*'s skyscraper bridge? Should he charter the Concorde and choke on a truffle en route to Paris? Should he expire when his stretch limo totals Zsa Zsa Gabor's?

Thinking of his high-flying style of life, I finally decided that he should die a pedestrian death.

And so I wrote Dave's obituary. I included it in the next column I sent in. A short time later, I phoned the editor and pleaded my case for its publication. He lectured me at some length on the innumerable reasons why he himself would rather die than run it.

And that is why you are only now learning the tragic facts, as originally conceived and submitted for publication, concerning the death of David Underhill Henderson, Yale, class of '43:

> Closing on a somber note, I have a letter reporting the death of DAVE HENDERSON three weeks before Christmas. From their home in Cancun, Dave's wife Marge writes, "We were about to take *Triunfador III* through the Canal, and with all the unrest in Panama, Dave thought it would be a wise precaution to arm the crew with assault rifles.

He had gone ashore in Belize to try to buy some and was walking back to the boat empty-handed when he was struck down by a speeding pickup truck loaded with mangoes. He died on the way to the hospital. . . ." Dave was buried in a simple family service on the ranch where he was born, now belonging to his brother Richard, near Truth or Consequences, New Mexico. The Class extends its sympathies to Marge and her family.

As I finally came to accept Dave's death, I found I had no feelings of sadness. Dave had had a long and happy life. Six years of that life had been reported extensively in the notes column. In the midst of unlimited corporate success, academic and professional achievement, philanthropy, public service and happy family life, Dave Henderson had provided a cheerful example of greed, insensitivity and wretched excess.

What more could a classmate do?

"With all the unrest in Panama, Dave thought it would be wise to arm the crew with assault rifles. He was walking back to the boat empty-handed when struck down by a pickup truck loaded with mangoes."

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"THE MAYOR reckons I'm like A GLASS of warm MILK. I help all of GEORGETOWN get a good night's SLEEP."

LARRY ADKINS
Georgetown Fire Chief

UNTIL LAST YEAR, GEORGETOWN, Kentucky, relied mostly on volunteers to protect the town's 12,500 people.

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He hired 10 full-time firefighters, all of them highly qualified.Then he outfitted every team member, volunteers included, with state-of-the-art breathing apparatus, fire-resistant uniforms and equipment. And just to make sure the gear won't collect any dust, Larry insists on a minimum three hours training and drills. Every day.

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But we're just as pleased to know that aside from 36 firefighters, everyone in Georgetown is sleeping sounder these days.

TOYOTA

INVESTING IN THE INDIVIDUAL

Spring officially arrives as a bud on a maple tree opens and the still-soft leaves reach for the sunlight.

Photographs by Farrell Grehan

Flowers in the sky: look up to find spring

Unseen above our heads, subtle miracles repeat endlessly when tree buds open to reveal the flowers and leaves that will carry life onward

Day length is increasing quickly this month as the sun races toward its crossing of the celestial equator on March 20. Warmth is washing northward across America; all around us the usual miracles are taking place. Ten-ton flowering plants are blooming, bursting out in 10,000 blossoms at a time. To see some of the best flowers of the new year, we need look not down but up, with the same binoculars we turn on the feathered descendants of dinosaurs returning from the tropics.

Rousing themselves from winter dormancy, deciduous trees have the same urges as many of us other organisms: to feed and reproduce. To accomplish the latter they grow the sexual organs we call flowers. Those that will use the wind for pollination may be small, green and inconspicuous, although in the aggregate they catch the eye, as do the male catkins of the birch, on page 116. Others, that must attract flying and crawling things to succeed, are more showy, as are the flowers of the red maple, on the opposite page.

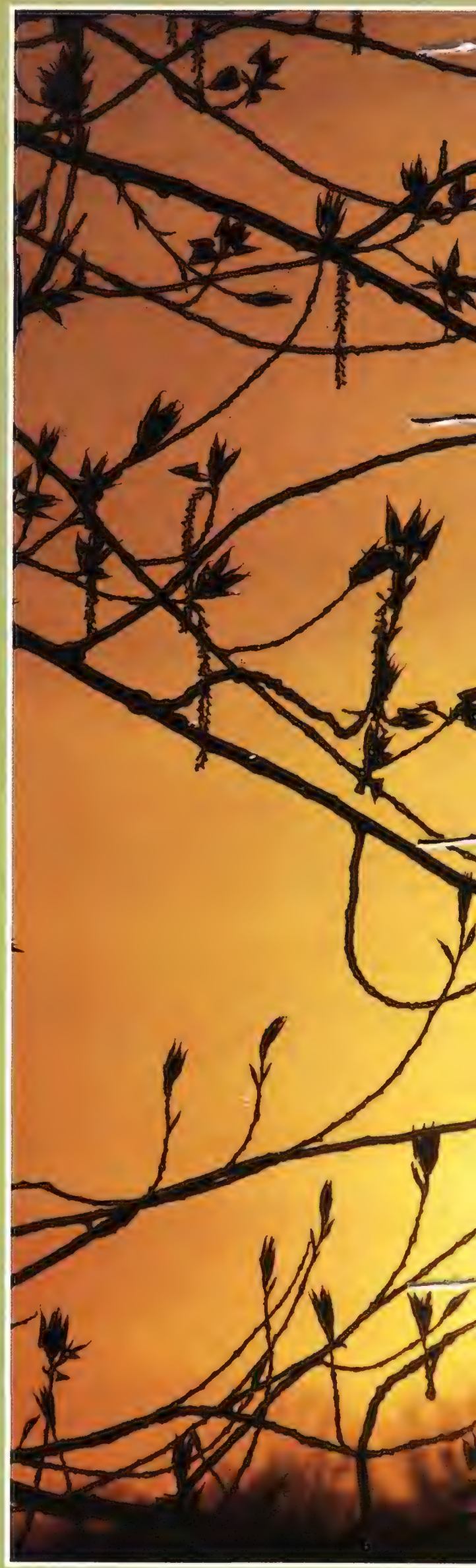
The leaves are life itself, able to take in carbon dioxide from the air and water from the roots, and then use solar power to split the molecules and recombine the atoms into the sugars that power everything else. Like spacecraft deploying their panels of solar cells, the trees reach for the precious sunlight. A maple tree whose trunk occupies just one square yard of ground may grow 100,000 leaves with a combined surface area of half an acre. With each bud opening to the spring sunshine, life begins again.

John P. Wiley jr.

Male flowers of a box elder are designed to spread their pollen before its leaves fully open and interfere with the wind currents that are essential to the task.

Late snow has not discouraged this red maple from blossoming on schedule. The early spring flowers will be succeeded by two-winged fruits, some weeks later.

Looking most edible, the leaves of a hickory unfold.



Opening leaves and dangling male catkins of

a poplar greet life-giving rays of the sun.

On a Norway maple, the first pairs of leaves open.

Chlorophyll has not yet greened silver maple leaves.

The pendulous male catkins of a sweet birch, formed during previous summer, now release pollen to wind.

Fuzzy leaves of an American beech open from a twig pocked with white ellipses of its winter bud scales.

Sycamore maple leaves replay the miracle that began about the time the dinosaurs died.

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By Roger Warner

Asian sculptors make the meaning of life concrete

Eastern artists are using a Western building material to construct spectacular figures that teach, entertain, provoke—and frighten

Gigantic sculptures welcome visitors to Sala Keoku garden in Nong Khai Province, northeastern Thailand.

Once upon a time, a Laotian artist and mystic named Boun Leua Sourirat went hiking in the mountains of his native land. He was walking along, minding his own business, when he fell into a hole and ended up sitting on the lap of Keoku, a kindly hermit who lived in a cave. Leua stayed with Keoku for several years, during which time the hermit taught him about the Buddha and the underworld. Keoku also introduced Leua to some of the gods and goddesses who live in the higher realms of Buddhist mythology.

After resuming his life aboveground, the artist created a vast array of gigantic sculptures in the forest of northeast Thailand, which he named Sala Keoku (Hall of Keoku) in honor of his spiritual teacher. Leua's spectacular figures depict many of the religious and mythical beings he learned about from Keoku. The dominant statue is a seated representation of the Buddha that rises 75 feet into the sky, or as high as an eight-story building.

The account of Leua's subterranean inspiration was told to me not long ago by one of his assistants when I visited Sala Keoku, which is located in Nong Khai Province. I couldn't help wondering whether I was expected to believe the tale literally or whether it was a metaphor of Leua's experience as an artist. But it really didn't matter. What did matter was the reality of Leua's work, and the fact that it was made not with such venerable native materials as teak or stone but with concrete, the low-budget medium of the modern Asian building boom. Here was something unmistakably marvelous: an Eastern folk artist using a Western commercial material for his own spiritual purposes, and using it on a truly grand scale.

Southeast Asia is a big, fast-changing chunk of real estate. Since 1975, when the Vietnam War ended, every Communist country has taken an economic nosedive, while every free-market country has boomed. The skylines of the non-Communist capitals change almost monthly, with high rises sprouting like a new form of tropical growth. Everywhere, the material of construction is concrete. In Thailand, a pro-Western nation, even Buddhist temples and other religious structures

Woman with upraised arm (center) is a snake goddess. Figures of the Buddha (at rear) are cast in meditation.

are being built of concrete. The basic ingredient, Portland cement, was introduced after the turn of the century, and by now even people in the hinterlands know how to mix and cure it so it lasts.

In the great island gateways to the region, Hong Kong and Singapore, a pair of concrete sculpture gardens was erected more than 50 years ago by merchants as monuments to their religious and folk beliefs. Both are popularly known as Tiger Balm Gardens, after a famous mentholated salve of the same name, and both are well-known tourist attractions. First-time visitors are almost always amazed, baffled and sometimes even disgusted by the garishly painted figures of animals, warlords, and ancient and modern allegorical scenes. There are other sculpture gardens in Southeast Asia, but they're farther off the beaten track, not as well known and seen by fewer tourists. They also serve a far more serious educational and religious purpose. Of the two major Thai sculpture gardens, the more impressive and remote is Leua's Sala Keoku.

I came upon it by accident. As a journalist in the early 1980s, I was interested in neighboring Laos, where an earlier covert war had pitted the Laotian and North Vietnamese Communists against Laotian royal-

Photographs by Michael Freeman

Boun Leua Sourirat, sculptor and mystic, rests next to several statues, including a five-headed-snake deity.

Dignified elephant ignores pack of barking dogs. Leua created work as a symbol of artist rising above critics.

ists and hill tribes. After the Communists took over in 1975, Laotians started fleeing in large numbers across the Mekong River into Thailand. Near the Thai town of Nong Khai, there was a squalid refugee camp for royalist Laotians. Hidden in the trees less than a mile away was the unexpected sight of Sala Keoku.

It was amazing. It was like nothing I had seen before—not the Millesgarden in Stockholm or Vigeland Park in Oslo or sculpture gardens in the United States, like the one at the Smithsonian's Hirshhorn Museum. This was an altogether different kind of enterprise; if size counts for anything, it was world-class.

When I wangled a visa to Laos, now officially known as the Lao People's Democratic Republic, I paid a visit to a sculpture garden that Leua built before the war's end. There I saw an 80-foot concrete sculpture of the reclining Buddha, disfigured by cracks that were the result of the wrong mix of ingredients or a poorly laid foundation. Figures from Buddhist and Hindu mythology stood about, and above them rose an onion-shaped dome with strange little underworldly figures inside. Climbing the dome, I could see across the Mekong to Sala Keoku, with the tops of Leua's newer sculptures just visible through the trees.

I went back to Sala Keoku almost ten years later to find the concrete figures stained by a black mold indigenous to the climate, and the grounds covered with potted plants. Leua was ill and unavailable for an interview, so his assistant, Samnuk Wian, came out and told me the story of Leua's meeting with the hermit in the cave. Samnuk said that about a hundred volunteers, men and women, lived on the grounds and worked on the sculptures for free. This struck me as odd, and I noted that unlike the Buddhist monks of the region the men there didn't wear orange-colored robes. Samnuk replied that Sala Keoku was a religious community of lay people who came to meditate for periods of time. In that case, I wondered aloud, why didn't Leua become a monk? Samnuk replied, "Boun Leua Sourirat cannot be a Buddhist monk because he is half-human and half-animal," as though that explained everything.

Samnuk was only too glad to take me on a guided tour. The statue of the man cutting off his hair, he said, was Prince Siddhartha en route to becoming the Buddha, the Enlightened One. I assumed that the figure with the same half-smile sitting in the lotus position with a five-headed snake over him was that of the Buddha meditating, but I was wrong. It turned out instead to be one of the Hindu gods.

Roger Warner's report on Angkor Wat appeared in the May 1990 issue. He is working on a book about the fighting in Laos between 1960 and 1975.

Most of the female figures with ornate clothing were Hindu, as were the male figures with more than two arms, but this was not terribly surprising, as Buddhism developed in a Hindu environment in India. Other multiarmed figures were derived from Buddhist tradition, like the 12-armed statue called Yama, the "guardian of hell." My interpreter took one look at it and said, "In our stories, there is a place we go for judgment when we die. If we have done bad deeds, this god writes them on tablets of rotten dogskin, and if we have done good deeds he writes them on tablets of gold."

Then we went to the samsara-cycle enclosure. Samsara is the Buddhist concept that souls are born and reborn in an endless cycle; to improve one's next life and lessen the suffering, one must "make merit." I had seen a rudimentary samsara enclosure in Leua's earlier sculpture garden in Laos; this one in Thailand was an enlargement and refinement of the theme. Near the tunnel entrance stood figures of souls waiting to be born. Conception was the beginning of suffering, the resumption of the cycle. From this point on, within the circular courtyard, the theme was laid out explicitly with concrete arrows pointing the direction for the visitor to follow.

There were statues of a baby, and of a boy and girl walking together in Western clothing, and farther on, of a husband and wife. Along the courtyard wall, between statues of frowning gods, were representations of a military officer, a tattooed soldier with an M-16 rifle (no doubt inspired by the war in Laos), a businesswoman, a king, lovers, skeletons embracing to show that passion isn't lasting, and so forth. It was a panorama of life's possibilities. The end, of course, was the same as the beginning: rebirth.

The cycle went around and around, but near the tunnel entrance, next to a coffin set on a concrete funeral pyre, a tall figure of the Buddha was in the act of stepping over the enclosure walls. It was a clear lesson: only by following the Buddha and his teachings could humans hope to escape the repetitious pain of further lives.

While I was pondering the meaning of all this, a man with a mop of curly hair appeared. His clothes were white, and he was riding in a wheelbarrow pushed by acolytes. It was the artist, Boun Leua Sourirat.

Leua indeed was not well. He had hurt himself falling off one of his towering sculptures, and he apologized for not having the strength to be interviewed. Nevertheless, he answered some questions. No, he did not have any previous artistic experience before starting his first sculpture garden on the Laos side of the Mekong. Yes, he used concrete simply because it is the cheapest material available. And yes, his teacher, Keoku, is "physically alive, but ordinary people cannot see him without meditation." Leua agreed to pose for pictures. In fact, now that he had an appreciative audience he would not stop posing, to the consternation of his assistants. He caressed his statues, putting his cheek against them lovingly, even climbing a ladder to the top of one as if meaning to demonstrate the manner of his accident.

Far south of Leua's sculpture gardens, but not as far as the sprawling, traffic-clogged Thai capital of Bangkok, another colossal image of the Buddha rises

Open mouth serves as the entrance to samsara-cycle enclosure at Sala Keoku. The script above it reads: "The divine phallus is the Father of all. The entrance leads to the realm of the body." The figures inside courtyard are humans and divinities.

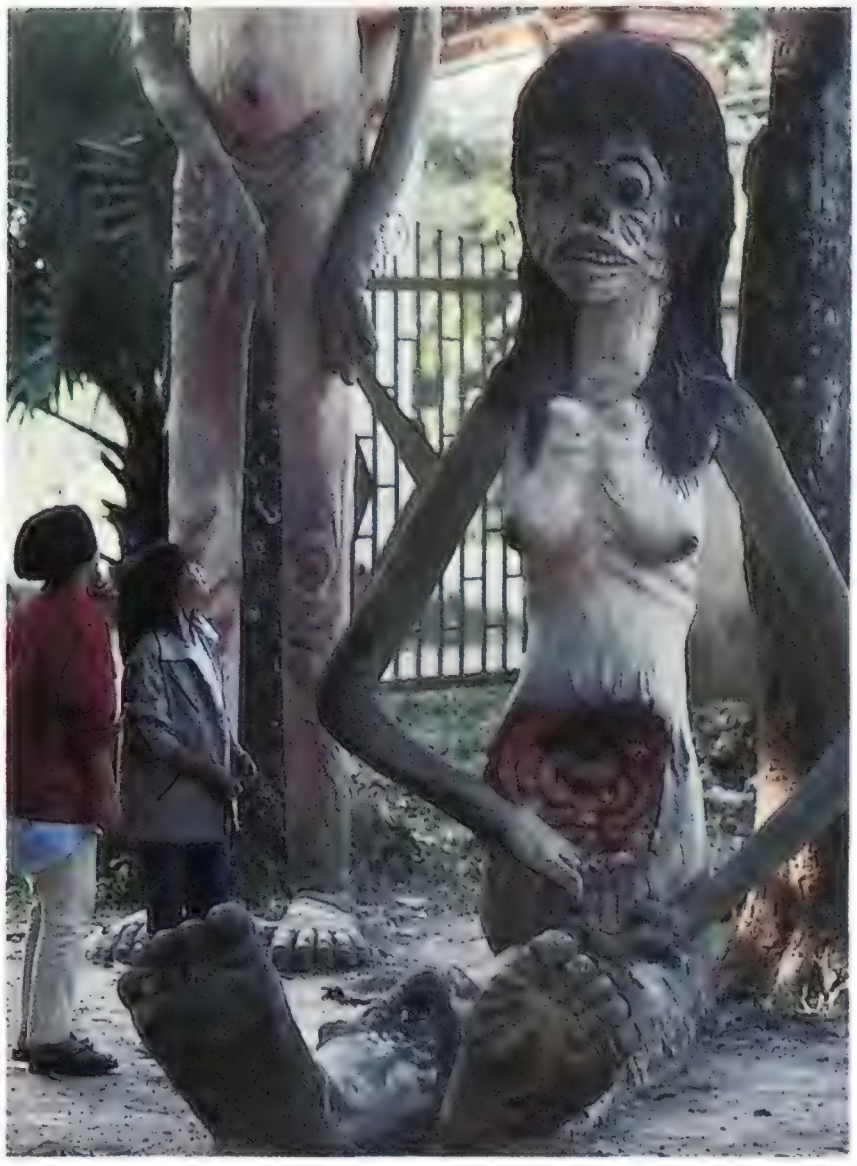
Statues that teach and preach

Colossal sculpture of the Buddha at Wat Phairongwua, near Bangkok, towers over the temples in the park.

serenely above the trees. Gleaming white, it is visible on the tablelike plains for miles around. This is the Buddha at Wat Phairongwua (Temple of the Bamboo Cattlepen), Thailand's largest sculpture garden. It is located next to a canal, and tourists from Bangkok come by boat and bus every weekend.

Like Leua, the master builder of Wat Phairongwua had no previous experience. His name is Bao, and a quarter-century ago when he was a monk on those central plains, a wealthy farmer asked him to build a temple. Bao agreed, provided he could go to India to study first. When he returned, he built not merely a temple but a teaching site, with sculptures of the Buddha and of Buddhist and Hindu tales, taking much of his inspiration from his travels in India.

Wat Phairongwua is a disconcerting place, and to me the most unsettling thing about it was that its pieces didn't seem to add up to a coherent whole. Buildings in eclectic styles memorialize the landmarks in the Buddha's life, like the palace he lived in as a youth and the site of his first sermon, but the architecture is not in any apparent relation to a plan. Statues abound, some of them in metal, such as peasants toiling to push for-



Near a temple in northern Thailand, youngsters stare at gory figures of the damned suffering for their sins.

Visitor on the same grounds is transfixed by sculpture depicting still other poor souls condemned to a caldron.

ward a wheel, and others made of concrete and painted in loud south-Indian colors.

For me the most disturbing section of Wat Phairongwua is the one with figures called the *pret*, or "the damned," who suffer in the underworld for sins they committed on Earth. The pret are deformed and in postures of agony, impaled on spikes or with their faces fused with their intestines. Larger statues nearby are similarly dramatic, like the thorn trees up which men and women climb, bleeding, with a dog snarling at the base and an eagle waiting to devour them at the top.

Since my first encounter with the Buddhist sculpture gardens, I had been baffled by what appeared to me to be their non-Buddhist imagery. In Leua's old garden in Laos there was the onion-shaped dome with the crude little creatures inside. In Leua's new garden there was the 12-armed guardian of hell who wrote bad deeds on tablets of dogskin and good deeds on tablets of gold. Now here were the pret, the most confusing figures of all.

When I tried to get someone in Bangkok to explain these strange rural gardens to me, I was passed from one Thai scholar to the next. Western-educated and biased in favor of the fine arts, they told me the new sculptures were beneath consideration; they were not purely Buddhist but a mixture of religious and folk beliefs. Eventually I was given the name of a "Mister Wally," an American.

Mister Wally, also known as Waldemar Sailer, greeted me in his apartment. He had grown up in the American Midwest, but that had been a long time ago. He spoke English with a lilting, polytonal Thai accent; like Leua, he dressed in white, Indian-style clothes. He was a schoolteacher by profession; he had studied theories of progressive education. His avocation was Thai religious iconography; he is said to know as much about Thai temple paintings as anyone in the country.

"What we have here," he said, as he peered at my slides, "are deep-rooted historical images emerging after a long dormancy, now that country people have a medium to give them expression." The pret, he said, are stock characters from the Phra Malai, a religious text that is not part of the Buddhist canon but that gained acceptance in the old Thai kingdom of Ayutthaya, which flourished from 1351 to 1767. "The Phra Malai influenced the moral code of the Ayutthaya

A woman views a "lesson" on the consequences of adultery. Sculpture gardens serve a serious educational purpose, teaching ordinary people moral behavior.

people and kept them in line by reminding them of the consequences of evil behavior," Wally said. Certain images, like the thorn trees up which men and women climbed, bleeding, represented what would happen to sinners—in this case adulterers—after death. He pulled out some photographs he had taken of temple paintings showing thorn trees exactly like those at Wat Phairongwua, with a dog snarling at the base and an eagle at the top.

Did the ordinary people take the imagery of the Phra Malai literally? "Absolutely literally," Wally replied. He added that although the Phra Malai had been deemphasized, the common folk still believed in it, even monks like Bao who had gone off to India to study.

And what about the hell guardians and the onion-shaped dome with the creatures inside, in Leua's garden? Without hesitation, Sailer drew a diagram of 31 planes of existence, from hell through human life to heaven. This was a simplified version, he said, of a philosophical system that was part of Buddhist cosmology. The more unusual statues had to do with the layers of existence in hell; the gods of judgment consigned people there, and the little figures inside the dome lived there. People like Leua believed in this underworld, and in the mystical powers of hermits, at the same time that they accepted other standard Buddhist teachings like samsara and rebirth.

Clearly, the sculptures had never been intended as art per se. They serve an entirely different purpose. "They're open classrooms for country people," Sailer said. He went on to explain that the gardens are meant to teach not only religion but also proper behavior to people who have no formal schooling and whose illiteracy rate is high. The gardens had sprung up when concrete made possible the three-dimensional realization of the old ideas, and they take many of their themes, Wally said, from temple murals. Common people go to see them, and in addition to enjoying themselves, are reminded of moral lessons they have heard all their lives—and believe.

Western tourists who go to Asian sculpture gardens, said Sailer, tend to react as I did—on the level of spectacle, without understanding the underlying message. For that matter, educated urban Asians, too, are inclined to disdain the gardens because of the folk ideas embodied in them, and because they find much of the artistry to be crude. It was inevitable, Mr. Wally concluded, that religious work like Leua's and Bao's would have its critics.

I remembered my favorite sculpture group at Sala Keoku, an elephant striding along with a pack of dogs yipping at its feet. The dogs were shown in a variety of poses—reading books, driving convertibles, playing cards, drinking liquor, and barking, barking, barking. Quite clearly they were meant to be critics. The elephant paid no attention to them and regally continued on its way.

"Are you the elephant?" I had asked Leua. "Yes," he replied pleasantly. "Of course."

Struggling up a thorn tree, yet another sinner endures ghastly torture of the damned at Wat Phairongwua.

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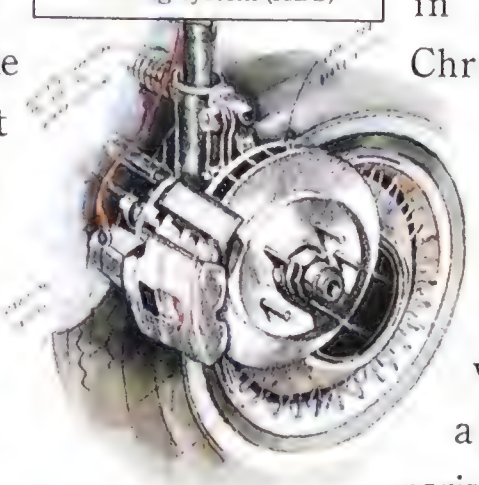

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Footprint left in sand nearly 13,000 years ago was found in Chile by anthropologist Tom Dillehay (opposite). He uses a microscope to look for details of weathering and use on a stone tool from same site.

By Richard Wolkomir

New finds could rewrite the start of American history

Evidence is now building that humans reached our continent well before 11,500 years ago—the date that we have traditionally accepted

It was 12,000 to 13,000 years old, *too* old by more than a millennium. It was a human footprint (above).

Anthropologist Tom Dillehay found the imprint under a knee-deep mat of peat moss in a remote Chilean forest called Monte Verde. But archaeological orthodoxy says no humans reached even the northernmost parts of the New World via the Bering Strait until the glaciers receded, prior to 11,500 years ago. Before that, mastodons trumpeted in this cool, rainy forest. Saber-toothed tigers stalked sloths as big as giraffes. But there were no people.

Monte Verde may prove otherwise. It is a Pleistocene Pompeii, where archaeologists have unearthed remnants of a prehistoric apartment complex. They found medicinal plants, some of them chewed. They even uncovered mastodon steaks, apparently sliced for dinner and then left.

Further discoveries at Monte Verde—and elsewhere in the Americas—have raised even more startling questions: Could humans have been here, not just 13,000 years before the present (BP), but as long ago as 30,000 BP? Or even further back?

It has been a scientific rumpus. Until the 1930s, the accepted date for the peopling of the Americas was 4,000 BP. In the '50s, using the new radiocarbon technique, archaeologists dated charcoal and bone found

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with elegantly knapped stone projectile points from Clovis, New Mexico, at about 11,500 BP. The Clovis mammoth hunters became the official first Americans. Now claims for even earlier sites, like Monte Verde, have set off an intellectual brawl, with Clovis-firsters and pre-Clovisites challenging each other's evidence at scientific meetings. But a new consensus may be emerging: when Tom Dillehay publishes his final analyses, accepted dates for the first people in the New World may shift backward.

Monte Verde is unusual because its boggy soil has preserved more than American archaeology's usual Spartan array of flints and bones. Its ancient flesh, wood and leaves have sharpened our view of New World prehistory, thanks to a farmer who came across a big tooth. In 1976 Dillehay, a tall, bearded Texan, was teaching at the Universidad Austral de Chile, in Valdivia, when a man brought in a large "cow's tooth" he'd found several hundred miles to the south, at Monte Verde. It was mastodon. Paleontologists found more mastodon bones there. Dillehay's specialty was Inca civilization, but he had excavated early hunter-gatherer sites before, and he thought marks on the bones could have been made by ancient human hunters.

Stanford cracks open a bison tibia he'll compare with bones from 11,000 BP.

"When I first went to Monte Verde, I wasn't interested in early man—I was studying pre-Hispanic village sites, but I was in the area with students, and so we took two days to walk in," he says.

It was dairy country, alternating with forests. Mapuche and Huilliche Indians lived there, as their ancestors had since prehistory. The site was a misty forest, 30 miles from the Pacific, with Chinchihuapi Creek trickling through. In the distance, snowcapped volcanoes jutted up.

"We put in test pits, finding a few bones, a couple of dubious flakes, some oddly shaped pieces of wood, that's all," says Dillehay. "But I was struck by the preservation—we stayed three weeks in Boy Scout pup tents, and I came back the next year to see if it really was a site."

This time he brought in gear on mud sleds hauled by oxen. He unearthed stone flakes, a stone blade and worked wood. For his third trip, he had funding for 30 workers and a serious three-month dig. "I found things I wasn't used to seeing," he says.

The archaeologists discovered remnants of a row of huts that possibly housed 30 to 50 people. Each hut—a wooden framework covered with

Dennis Stanford flakes obsidian point; results of similar work lie before him.

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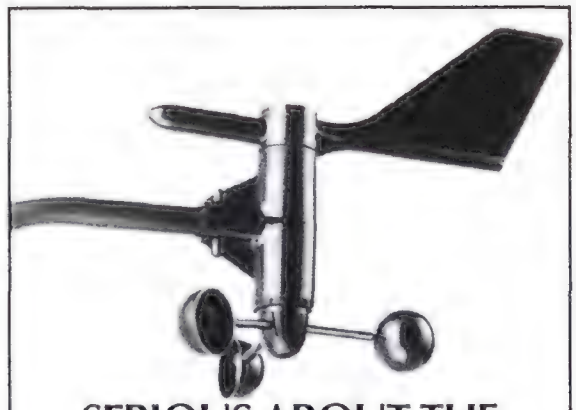

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skins—shared a sidewall with its neighbor, a prehistoric condominium. The excavators discovered the human footprint (probably a child's), preserved mastodon flesh, and enough bones and plant remains to deduce that Monte Verdeans ate at least 42 species of plant, including wild potato. They cooked communally, in two hearths, roasting mastodon as well as a type of llama now extinct, rodents, fish, amphibians and crayfish.

"They seemed to have lots of health problems," says Dillehay. He turned up 20 species of medicinal plants, some burned or chewed. "Local Indians still use them for intestinal, pulmonary and skin disorders—one is a tree lichen that gives off white spores the Indians use as talcum powder," he explains.

Half the medicinal herbs discovered at Monte Verde do not grow nearby. These plants, and tools made from ocean-beach pebbles, and bitumen used to attach stone tools to wooden hafts, suggest the villagers foraged as far as 60 miles, or were part of a trading network. Downstream from Monte Verde's "residen-

Albert Miller (right) got James Adovasio to excavate Meadowcroft Rock Shelter.

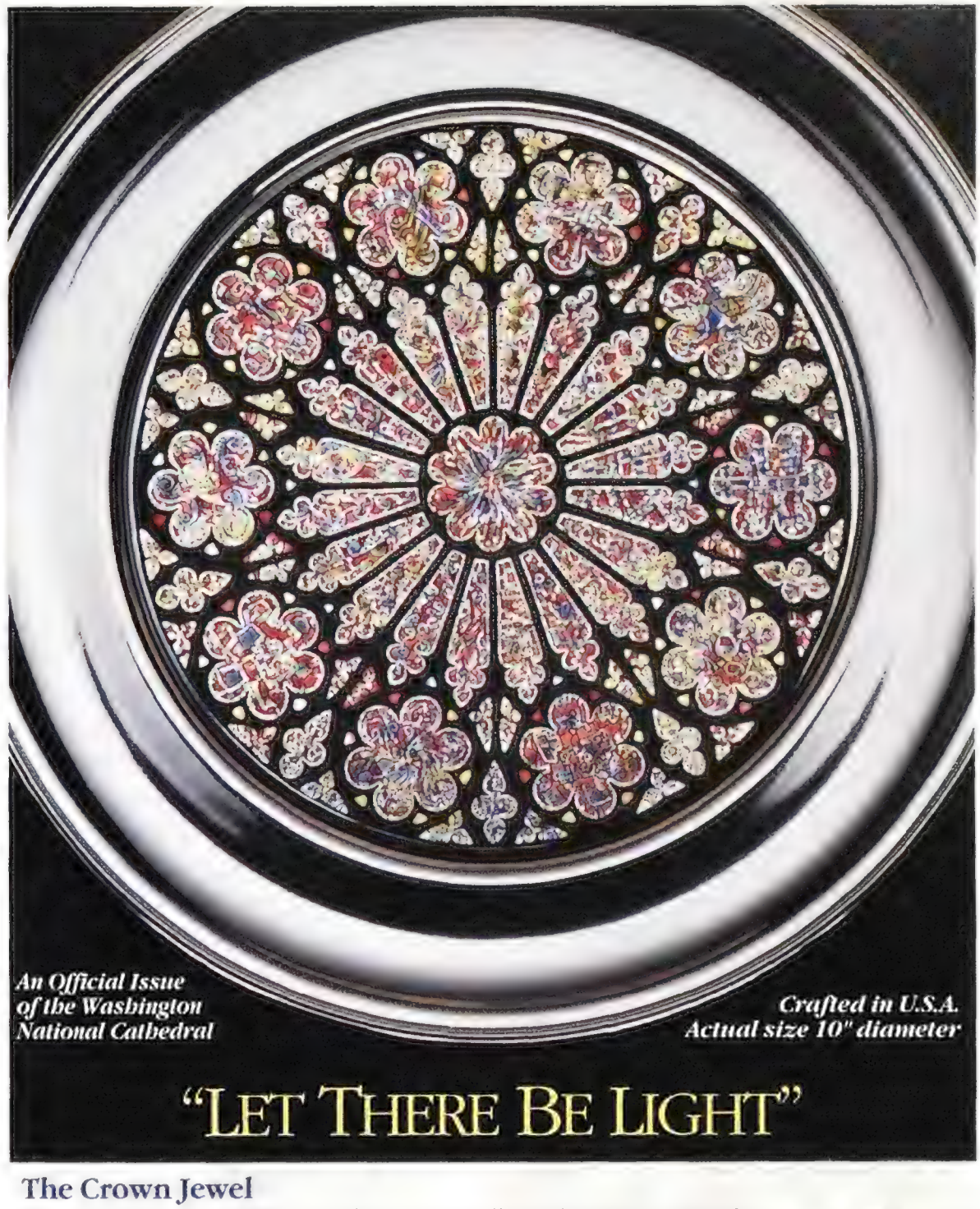
Named for Meadowcroft's owner, Miller point is dated 11,000 to 12,800 BP.

tial" neighborhood, excavators unearthed a wishbone-shaped structure, with a foundation of sand and gravel hardened with animal fat, that served as the "downtown." Here they located cached salt, stone tools, braziers, mastodon bones, skins, worked wood, and medicinal leaves and seeds. It seemed to be a combination butcher shop, pharmacy and tool factory.

A complex community existing as far south as Chile 13,000 years ago means people must have crossed into Alaska much earlier. Yet, archaeologists have unearthed few signs of those early migrants. Monte Verde's artifacts (preserved by boggy soils) suggest a reason: Dillehay argues that pre-Clovis tools may be scant because they were mostly bone and wood, which decompose. "At Monte Verde, we've got lots of worked wood, with nice cut marks—our problem is our image of what the archaeological record should be," he says.

Instead of hunting big game with stone-tipped weapons, the Monte Verdeans seem to have relied on plants, from potatoes to nuts, fruits, mushrooms and leafy greens. Their mastodon meat may have come from victims of predators or accidents, the Pleistocene version of road kills. And they

Vermonter Richard Wolkomir was appalled to discover that the ice-age weather extremes may have been less severe than today's.



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could have hunted fish and small game with sharpened sticks and snares. In fact, the excavators have found digging sticks, wooden mortars, a wooden lance and wooden spear tips. It is only Monte Verde's low-oxygen, boggy soils that have preserved them. "Monte Verde is unique," says Dillehay. "When you have only bones and stones, it's like looking back through a dirty window—with leather, plants and wood it's a clearer window."

The window is so clear that he can virtually "see" the settlement's final hours. "I'm convinced, but can't prove, that the site was suddenly abandoned," he says, adding that the culprit probably was a flood. One bit of evidence is the meat the Monte Verdeans left, which normally would have disappeared under an onslaught of bacteria, beetles and scavengers, such as foxes. "I've seen it rain so hard there that low areas suddenly filled with rising water," Dillehay says. Underwater, the meat and other perishables would have been relatively protected. Then, as the waters subsided, bulrush would have grown rapidly, establishing a peat bog. "All the Monte Verde artifacts are coated with an oxidized varnish that is created only by bog formation," says Dillehay.

A site like Monte Verde, which defies standard theories, can trigger charges of sloppy techniques. An excavator might fail to note that earthquakes had rearranged geological strata, muddling the archaeological record. Burrowing animals can move artifacts to lower strata. Streams might wash an artifact to a site or jumble artifacts from several sites, making a false picture. Charcoal from a "hearth" might actually be from a forest fire. "Tool marks" on bone could be made by other animals' hooves. Samples for carbon dating might be contaminated.

When Dillehay first published his findings and joined the faculty of the University of Kentucky, he sometimes found himself shunned at archaeological meetings. He rigorously tried to disprove his own dates. But geologists found the site's soils undisturbed, making it unlikely the artifacts are out of sequence. And the artifacts have undergone 25 radiocarbon datings, with the laboratories alert for contamination. All have verified the 12,000-13,000 BP date. So far, in fact, more than 70 nonarchaeological sci-

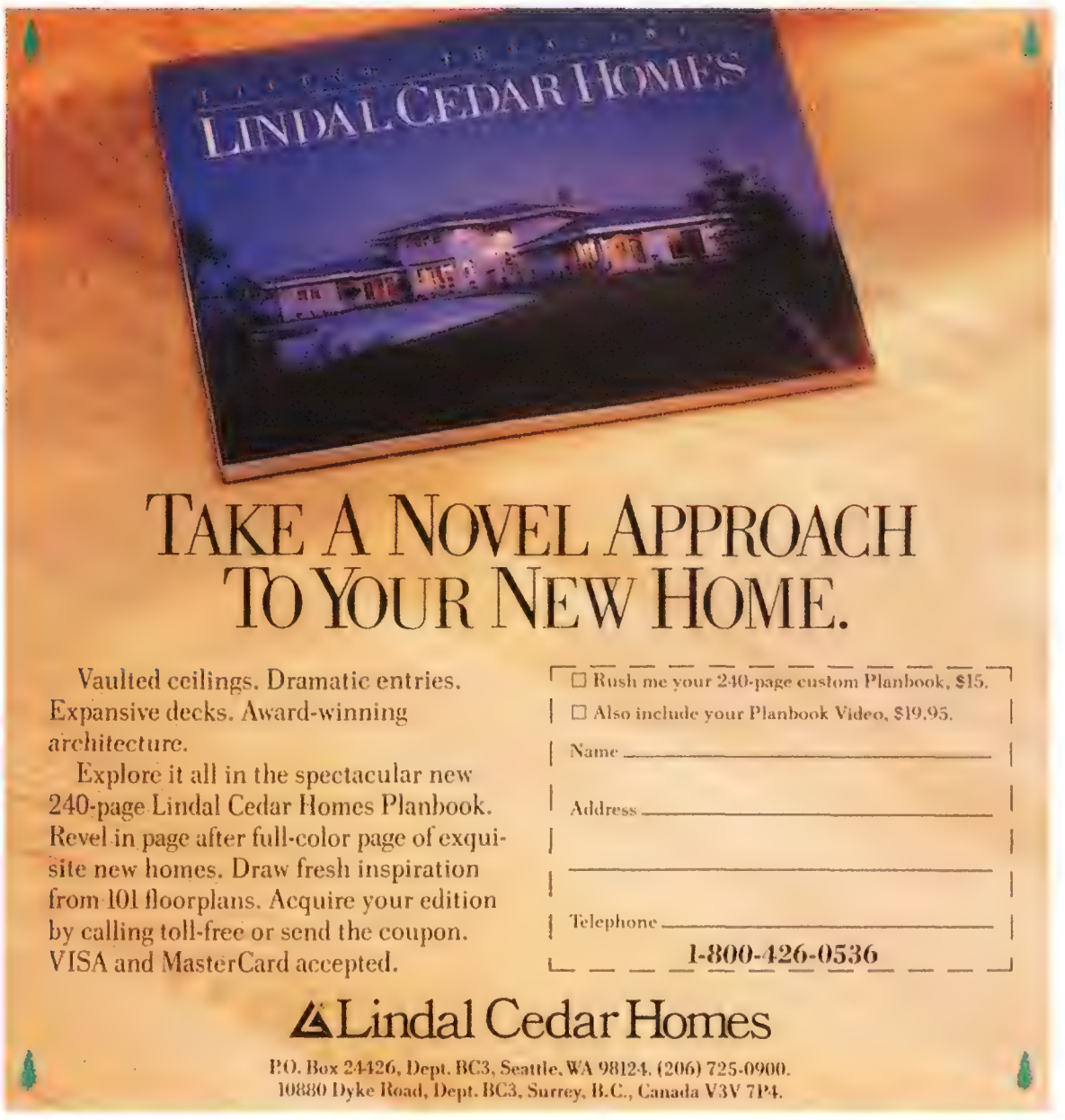
Adovasio's team built a protective structure over Meadowcroft to keep out weather and vandals. Small white tags mark the layers of soil.

Jacques Cinq-Mars found mammoth bone two years after finding its flake.

entists have investigated Monte Verde. Some have worked on-site, trying to piece together the ecology of the area those thousands of years ago. Others have worked in the laboratory, analyzing the proteins and the DNA.

Currently, Dillehay is working with Smithsonian archaeologist Dennis Stanford, a leader in paleo-American research. Using the National Museum of Natural History's vast bone collection, he has been comparing human-made cuts in bones with marks from weathering and other natural forces.

On a recent afternoon in Washington, D.C., Dillehay watched Dennis Stanford assist his wife, archaeologist Pegi Jodry, in breaking open bison bones on their lawn. Supplied by the Zapato Bison Ranch in Colorado, the bones were sufficiently ripe and aromatic to attract a crowd of bemused neighbors, who watched as Stanford—a bearded, bearish man in jeans and cowboy boots—sat cross-legged on the grass, cracking bison bones with stone tools he had knapped himself. He and Jodry planned to spend a month breaking bones, trying to understand the impact marks on bison bones bro-



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ken open nearly 11,000 years ago at a site in Colorado the two are studying.

The next morning, in a bone-heaped museum lab, Dillehay reached into a drawer marked "Bones of Interest—Gnawing." He pulled out an elephant ulna the size of a concrete block, comparing gnaw marks that predators had left on it with a bog-browned Monte Verde mastodon femur.

"When people butcher an animal, the cut marks are usually at the joints, not all over the bone," Dillehay told a visitor. Bones used as tools, he added, can acquire a polish that looks like sediment abrasion. He held up a polished mastodon rib he believes Monte Verdeans used to dig potatoes and other underground plant foods. "Indians today use horse and cow ribs in the same way," he said.

If Monte Verde were the only pre-Clovis site, it might be dismissed as an anomaly. But it is matched by a site 6,000 miles to the north, in Pennsylvania.

A half-hour's drive southwest of Pittsburgh, a two-story cliff looms over a minor Ohio River tributary, Cross Creek. At one point, a natural sandstone roof juts from the cliff, creating a south-facing hollow called the Meadowcroft Rock Shelter (p. 134).

Since the 1700s, the surrounding oak forests and farmland have belonged to the Miller family. After the current owner, Albert Miller, unearthed a flint knife from a groundhog burrow at the shelter, he began trying to attract professionals to the site. Finally, in 1973, the University of Pittsburgh's James Adovasio, one of the world's leading experts on ancient basketry, began extensive excavations that would last five years. The dig produced so much data that he is still analyzing the findings, with the final report due in about a year.

Local hooligans sometimes fired rifles at the excavators, who worked nights under a roof they built to keep out rain. And a 60-member West Virginia motorcycle gang inspected "the guys who lived in the cave." But Adovasio, a brawny former wrestler and motorcycle racer, kept yahoos at bay while getting on with the archaeology, which has proved iconoclastic.

Geologists say nothing has disturbed Meadowcroft's dirt floor, built by eons of particles falling from the sandstone roof. "At the surface, we found hypodermic needles, hash pipes and aluminum beer cans," says Adovasio. "Deeper down we found steel beer cans without poptops, and lower still we got Colonial gin bottles." Below that were stone tools. At the deepest level of human occupation was a strip of cut bark, probably basketry: radiocarbon dating put it between 16,200 and 19,000 BP.

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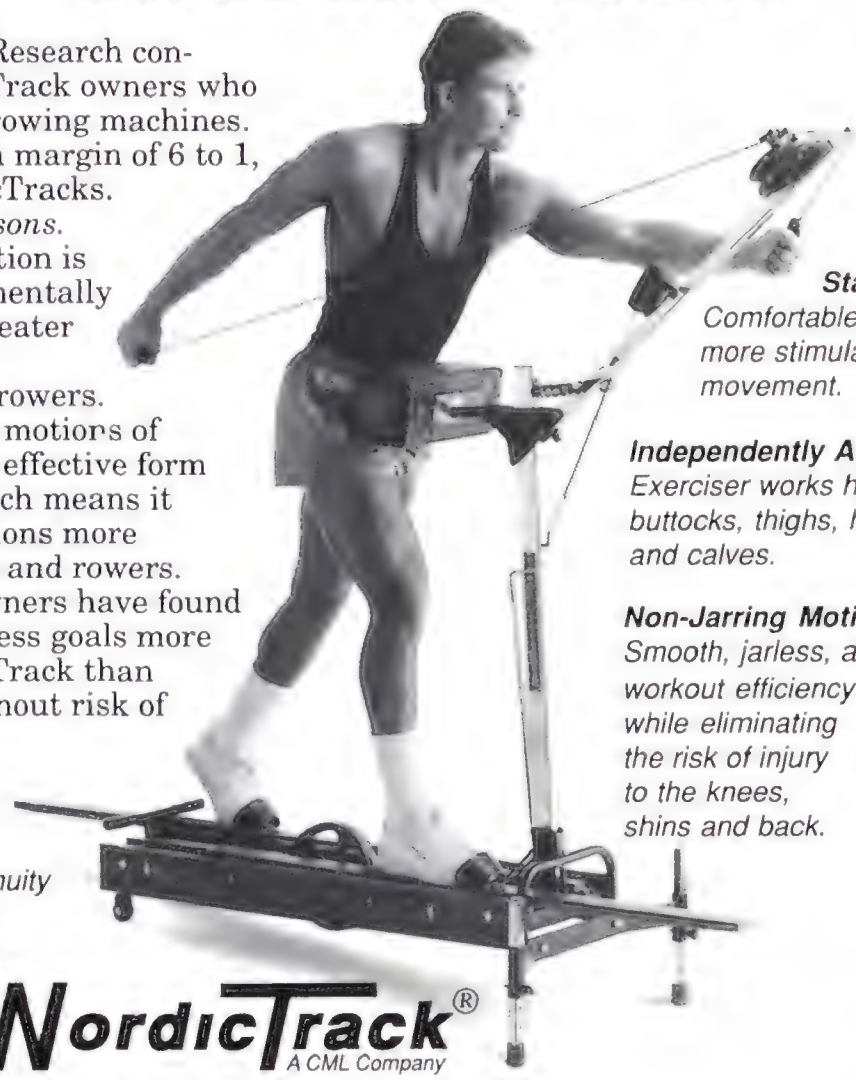

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Adovasio has submitted 52 Meadowcroft samples for radiocarbon dating to the Smithsonian, the University of Pittsburgh and Oxford University in England. "It's probably the largest number of individual samples ever submitted for dating from one rock shelter or cave, anywhere in the world," he says. Vance Haynes, an eminent University of Arizona archaeogeologist who is skeptical of pre-11,500 BP sites, spurred on the Meadowcroft team by arguing that washed-in coal particles might have contaminated the samples. But Adovasio's final report will show that no coal seams are near enough to be a source, and that the water table was always too low to wash in contaminants. Also, decomposed organic matter in the soil is younger than artifacts from that particular level, evidence that older contaminants did not produce pre-11,500 BP dates.

Recently, in bush jacket and jeans, Adovasio stood with a visitor on a platform at the now locked-up site, gazing into the 15-foot-deep pits excavators had dug. They had meticulously peeled away the soil with trowels and sometimes with razor blades. Working under high-tech lamps set to highlight selected features in the soil, they fed the data into computers. Now their guiding grid of yellow strings squared off only air. But their white tags marking archaeological levels still descended the dirt walls. "As you walk down those stairs," Adovasio said, "you go from the Holocene into the Pleistocene."

He believes the shelter was merely a camp where families stopped in autumn to hunt, fish, and gather berries and nuts. "See those red streaks in the walls? Those were fireplaces," he said, explaining that oxidation from the ancient hearths reddened the soil.

He produced plastic casts of stone projectile points from the shelter. "We found these blades at the deepest levels, and they're virtually the same as old blades found in Siberia and China," he said.

Archaeologists agree that the first Americans came from Asia, across the Bering Strait. They should have left artifacts of their passing in the Arctic. And in the Yukon, at Old Crow Basin and at Bluefish Caves, archaeologists have found mammoth bones that may have been marked by those early Siberian pioneers.

Old Crow is a muddle because the tundra's shifting ice and gushing spring runoffs move bones out of place and out of chronological order. They also scrape and cut bones. To distinguish ice marks from human marks, researchers have dragged ice blocks containing bones behind a truck, to simulate the spring breakup. Dennis Stanford once conducted an experi-

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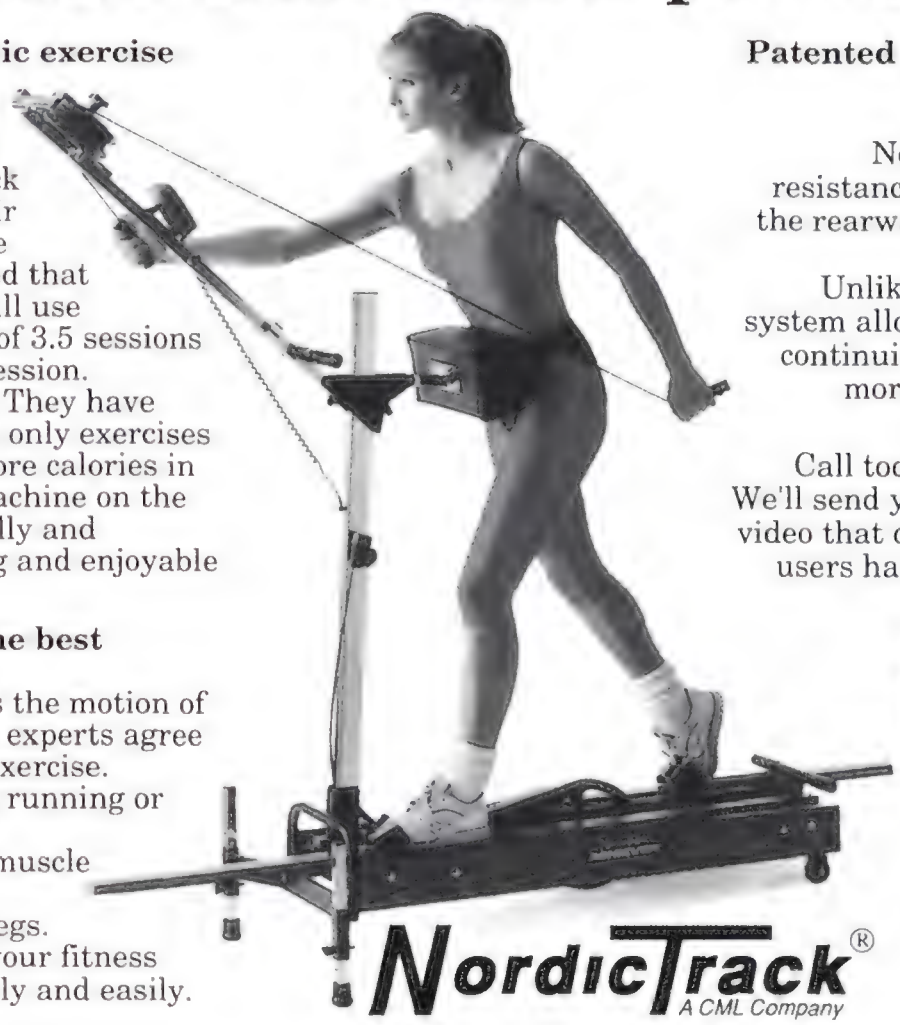

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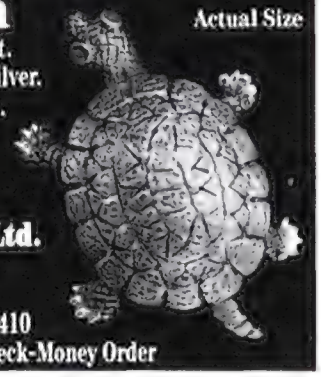

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ment using stone tools and bone tools to butcher a Boston zoo elephant named Ginsberg, dead of a cerebral hematoma (SMITHSONIAN, July 1978). She was a stand-in mammoth, good for showing what marks ancient rock hammers and flint choppers might have made on bone.

Laboratories have dated Old Crow bones believed worked by humans at 25,000 BP to older than 40,000 BP. Meanwhile, 40 miles away at Bluefish Caves, Jacques Cinq-Mars of the Archaeological Survey of Canada has found stone tools as well as bones.

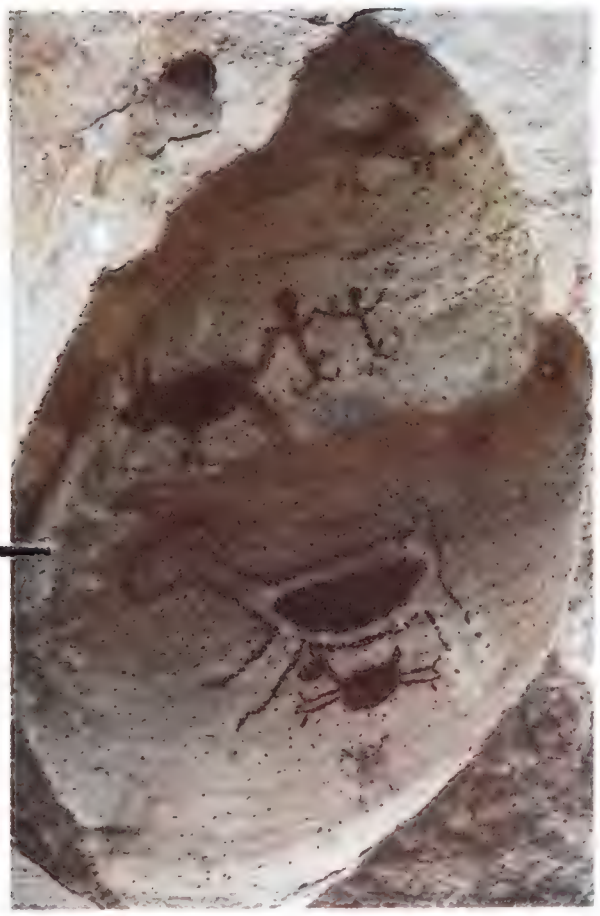
Both Old Crow and Bluefish Caves are in "Beringia," the Arctic region where humans would have entered the New World by land. "We know that people were exploiting Eastern Beringia prior to 14,000 BP because we find bits of lithic material, odd little flakes, flint dust and bones with cut marks, all ranging from 10,000 BP to 24,000 BP—blips of humanity," comments Cinq-Mars.

Bluefish Caves may have been a camp for these Pleistocene travelers. "I found a bone flake in one of the caves, and two years later I found the mammoth bone from which the flake was chipped, both dating around 24,000 BP," says Cinq-Mars. "Little is known in the New World of this bone technology, and so people have rejected it," he adds, referring to dismissals of bone markings as merely ice scratches or perhaps trample marks. "But some of this technology shows up at Bluefish Caves in a context that precludes those arguments, because there was no water, no ice, no changes in the geological strata," he says. "And it corresponds with the Old Crow materials, which have been in limbo because the bones were found out of context," he adds. "It's good evidence for human presence, as blurred as it may be, certainly at 25,000 BP, although we don't know who these people were."

Dennis Stanford is increasingly persuaded of a pre-11,500 BP migration into the New World. To explain it, he has formulated a model of New World prehistory. It begins before 22,000 BP with an unknown people crossing from Siberia into the American Arctic. At his laboratory in the National Museum of Natural History, Stanford compares plastic casts of thumb-size stone spear points, knapped in Siberia about 25,000 years ago, with matching stone points found in New Mexico and other similar points found with mammoth bones near Mexico City. "It's an older form of mammoth that lived 11,000 to 16,000 years ago, or more," Stanford said. "We can't get precise dating because the bones are so mineralized."

People migrating from Siberia 25,000 years ago would have faced the ice

Researchers believe humans moved into the Americas from Siberia. One theory (red line) holds they crossed Beringia during an ice age and, later, when ice receded, moved south through corridor between glaciers. Some went east and populated sites such as Meadowcroft. Others continued south, filtering into South America, where older dates are best explained by their migration in boats down the Pacific coast (green line).



Drawings on the rocks at Pedra Furada date to between 6,000 and 12,000 BP.

sheets. But geologists believe that from 22,000 to 19,000 BP the western ice sheet (Cordilleran) and the eastern ice sheet (Laurentide) drew apart, creating an ice-free north-to-south corridor. At first, it would have been a barren landscape. "But sometime within 300 years it would green up," Stanford says. "And it would be dotted with glacial lakes where hunters could find ducks and geese."

He envisions people moving through the corridor in waves, leaving stone and bone mementos at Old Crow Basin and Bluefish Caves. South of the Laurentide Ice Sheet, some of the people go east, arriving at Meadowcroft Rock Shelter in Pennsylvania around 16,000 BP. Others follow glacial lakes along the Cordilleran Ice Sheet, then filter south into Latin America, arriving at Monte Verde about 13,000 BP.

But some claims for early dates would make even these people Johnny-come-latelies. At Monte Verde, after Tom Dillehay excavated the 13,000 BP village, he kept digging. Across the creek from where the huts stood,

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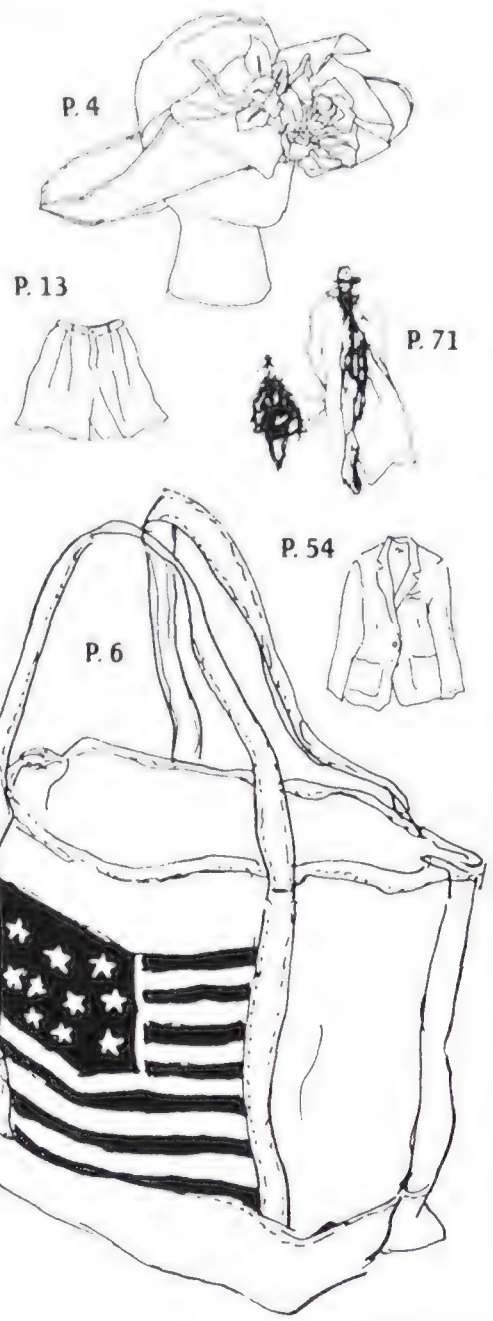

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he found even deeper material, a few clearly human-worked artifacts dated at 33,000 BP. It is a disconcerting find: "Even I consider the older material inconclusive—but we can't disprove it," says Dillehay. Geologists say the soils are undisturbed, making it unlikely the stones filtered down from above. Radiocarbon labs treated specimens from this site "gingerly." "But the dates turned out to be solid for 33,000 years ago," says Dillehay.

Dillehay found 26 stones at the older site, some chipped, as if from human use. Under an electron microscope, some edges show the microwear typical of tools. "That's like a used razor blade," he says.

"We don't want to close the door to an earlier migration, but we need solid evidence," says the Smithsonian's Dennis Stanford. "If Tom can demonstrate beyond doubt that his 33,000-year-old evidence is cultural, that will mean a new look."

Meanwhile, since 1973, in a remote section of Brazil's arid northeast, French archaeologist Niède Guidon (below) has been stepping around rattlesnakes to study a series of about a hundred natural hollows in a 120-mile rampart of cliffs. Painted on their walls are deer, armadillos, rheas, crabs, jaguars and people. At one of these shelters, Boqueirão of Pedra Furada, she dug up stone choppers, saw-toothed tools and food-storage pits,

Niède Guidon began careful excavation of Pedra Furada almost 20 years ago.

dating to before 8,000 BP. Nobody questions those finds. Digging deeper, however, she found charcoal, which she identifies as remains of ancient hearths. Nearby, she found bits of stone that she identifies as flakes left from tool manufacturing. Laboratories have dated charcoal from Pedra Furada's deeper levels at 32,000 BP, when modern humans were just emerging.

Such finds—including some claiming artifacts dating to 250,000 BP, or older—have set off an intellectual war. Anthropologist Christy Turner, of Arizona State University, an expert on human teeth, says his dental evidence suggests the first Americans separated from their Northeast Asian kin only 13,000 years ago. "When you look carefully at these sites that are asserted to be very old, you find ground squirrels that disturb the soil layers," he says. "We all want the truth, but nature is tricky. Would you go to court, with your life at stake, to argue some of these pre-Clovis finds? I'd like to live a little longer."

Linguists have joined the fight. Stanford University's Joseph Greenberg divides all native-American languages into just three "genetic" groups: Eskimo; Na-Dene, the root of the language spoken by the Navajo and Apache in the American Southwest and by the Athabascans and others in parts of Alaska and western Canada; and Amerind, the base language for the rest of the Americas. He believes ancestors of modern Indians came from Asia in three or more migrations, starting about 15,000 BP or earlier.

But linguist Johanna Nichols, of the University of California, Berkeley, has used a linguistic version of radiocarbon dating, based on language diversification over time, to argue that native-American languages must have separated from their Asian origins much further back. "The unmistakable testimony of the linguistic evidence is that the New World has been inhabited nearly as long as Australia or New Guinea, perhaps some 35,000 years," she says.

Team at Pedra Furada excavated to a point that shows no further evidence of humans. The earliest remains, charcoal, date to 33,000 BP.

Meanwhile, University of Hawaii biologist Rebecca Cann uses mutation rates in mitochondrial DNA—maternally transmitted genes lying outside the cell's nucleus—as a clock. "I can sequence your mitochondrial DNA and compare it with mine, and derive a time when you and I have a common female ancestor," she says. Analyzing modern Indians, she has placed a common ancestor 40,000 years ago, possible evidence for an early New World migration.

University of Alberta archaeologist Ruth Gruhn argues that humans must have entered the New World some 50,000 years ago because by 10,500 years ago people had reached South America's tip, with "tremendous local cultural diversity." Gruhn theorizes that the first Americans migrated not by land, but down the Pacific coast, in primitive boats.

"Not convincing," says University of Massachusetts archaeologist Dena Dincauze, speaking about all of the pre-Clovis claims. "What gets me into the game is that when you make a claim in science that requires everyone else's notions to be changed, there are special levels of demonstration required—if we're going to shake science upside down and make something new of it, we need a convincing reason to do that."

So far, pre-Clovis claims leave archaeologists such as Dincauze and the University of Arizona's Vance Haynes dubious. "I've spent a good part of a lifetime as a geologist, as well as an archaeologist, and from Clovis up I've seen one layer after another with artifacts, while from Clovis down there's nothing human," says Haynes. Pre-Clovisites claim they *have* found artifacts, by the basketful, but the conservatives reject it all. Vance Haynes cheerfully agrees: "Hardly a year goes by that there isn't a new site that's claimed to be old, but they all fall away . . . unless you're a believer."

Pedra Furada's skeptics believe its 33,000 BP charcoal came from forest fires. As for stone chips that have been discovered in the deep layers, Vance Haynes suggests they are not human tools: "Big cobbles on that cliff can work loose and whizz down with enough force to produce chips that look man-made."

Meadowcroft, despite its carbon datings, provokes debate. For instance,

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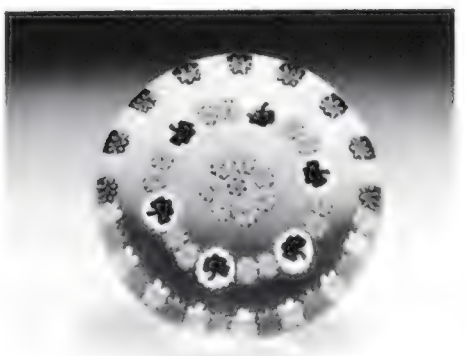

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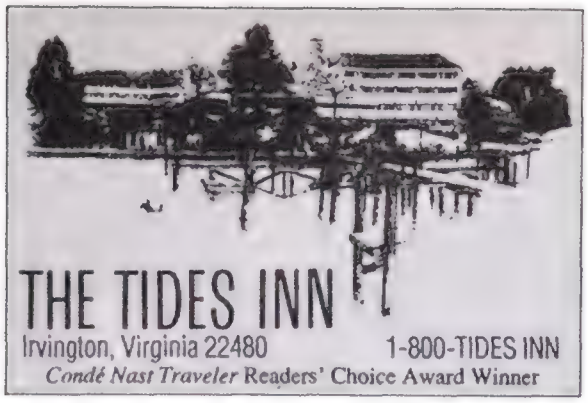
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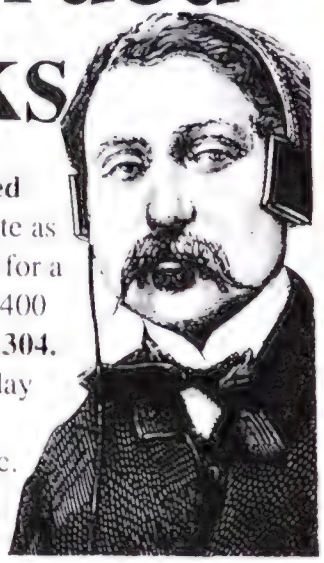
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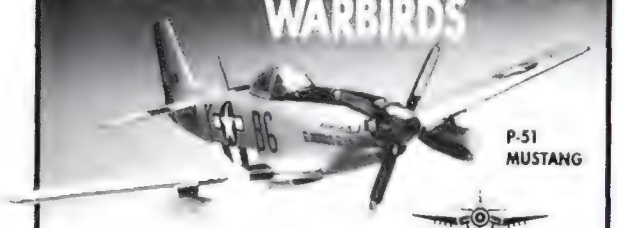
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pollen and botanical debris from the 16,200 BP strata suggest an oak forest at the site, similar to today's. But skeptics argue that Meadowcroft was only 70 miles south of the Pleistocene glacier, too close for so temperate an ecosystem. James Adovasio counters that Pleistocene ecosystems were more varied than today's, a mosaic. He believes the lower-altitude, protected site had a warmer microclimate.

Monte Verde has the opponents circling warily. "Of all the sites, Monte Verde is the best looking," says Haynes. "I've seen nothing to complain about so far, and what it boils down to is that it should be examined by all the doubters." So far, no agency has granted funds for such a showdown in the Chilean forest. Meanwhile, scientists await publication of the complete analyses of the Meadowcroft and Monte Verde excavations. They could lead to a new consensus on the peopling of the Americas.

"To finally have an answer is more satisfying than merely being right," says Dena Dincauze. And Vance Haynes says, "Before I leave this planet, I want to know what *really* happened."

Researchers agree on dates for Clovis projectile points, but not on age of choppers, bola stones and other Chilean artifacts, at bottom.

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Book reviews

The Life and Times of Porgy and Bess: *The Story of an American Classic*
Hollis Alpert
Alfred A. Knopf, $35

Throughout much of its history, whenever the critics couldn't think of anything else to write about *Porgy and Bess*, they argued rhetorically about what it was. Many shied away from "opera," although that's what its composer called it. "Folk opera" was their most liberal concession. At other times, "musical theater," "Broadway musical," "music drama" seemed to pass muster. But "opera"?

The legendary Rouben Mamoulian, who in 1935 directed the first production of *Porgy and Bess* (as well as the 1927 Theatre Guild production of the play *Porgy*), recently commented: "Critics at the time complained it wasn't an opera and it wasn't a musical. You give someone something delicious to eat and they complain because they have no name for it."

Hollis Alpert notes: "Perhaps if from the very beginning it had been labeled a music drama or a dramatic musical, critics would have protested that it was really an opera and that Gershwin and the Theatre Guild were attempting to disguise the fact."

If a certain fastidiousness prevailed among earlier critics—a reluctance to admit *Porgy and Bess* into the operatic pantheon—this obviously was not because they considered it insignificant. In fact, reading Alpert's engaging story of a work now firmly affixed among American classics, one wonders if they weren't so bowled over by it that they just didn't know what had hit them.

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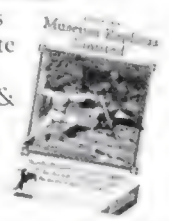

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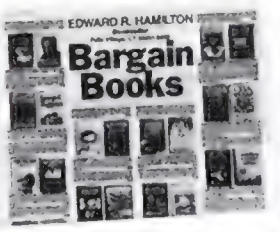

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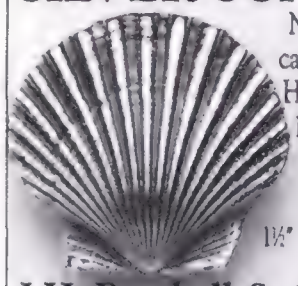

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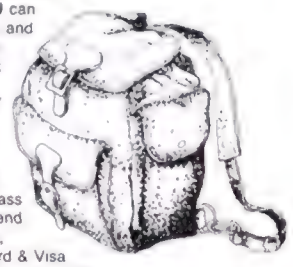

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There were other factors besides an identity crisis, of course, that made *Porgy and Bess* controversial from the beginning. One that continued in some measure to recent times was the opera's racial perspective. Composed by George Gershwin, with the libretto by DuBose Heyward and Ira Gershwin, the work is based on a novel by Heyward about blacks who lived in a Charleston, South Carolina, slum. After early enthusiasm, some black critics attacked the opera for being patronizing and demeaning; others praised it for its accurate and sympathetic portrayal. As Alpert points out in his prologue, "Then, some of those who derided it turned around and played in it and sang its songs."

There is no denying that *Porgy and Bess* brought stardom to Todd Duncan, Anne Brown, Ruby Elzy and other black singers who might otherwise never have had the opportunity to demonstrate their artistry to a large audience. And it provided a stepping stone to greater fame for the likes of Leontyne Price, William Warfield and Cab Calloway. Calloway, one of that era's top big-band leaders and entertainers, became the opera's most unforgettable Sportin' Life, a central character.

A revisionist tendency among the critics is an amusing element of the story. Once it became obvious that *Porgy and Bess* was on its way to becoming one of the most glorious successes in the history of the American theater, it was all right not only to acclaim the show but also to call it an opera. (Fifty years after its premiere it entered the repertory of the Metropolitan Opera.)

Porgy and Bess, which can be regarded, Alpert writes, "as a kind of mirror of social change in America," had its origins in the 1920s when DuBose Heyward, an obscure Southern poet, produced a novel, *Porgy*, about a crippled beggar who frequented the streets of Charleston. When *Porgy* became a best-seller, it caught the eye of Gershwin, the renowned young composer who was melding jazz and classical music into exciting new forms. In a letter to Heyward, Gershwin proposed the collaboration that eventually made musical history.

But more than nine years were to pass between Gershwin's initial proposal in 1926 and the epochal Broadway opening. They were years of distraction and frustration for the project, but stimulating years nonetheless. It was the

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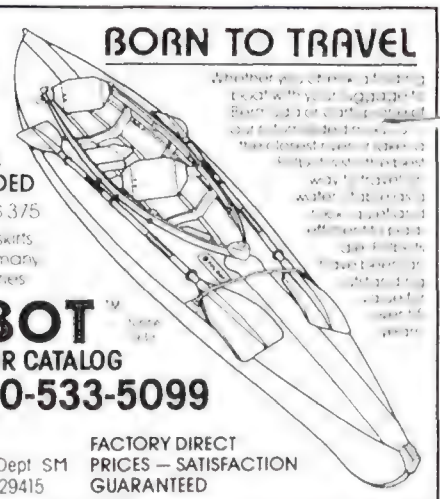

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Jazz Age, and not just the theater but all the arts were in ferment as Wall Street careened from boom to bust. Gershwin became preoccupied with other enterprises, and Heyward and his wife, Dorothy, were busy with their play *Porgy*, which became the actual precursor of *Porgy and Bess*.

Alpert brings vividly to life those years of the opera's gestation and particularly that memorable night when it burst brilliantly onto the stage of the Alvin Theatre. He is equally good with the aftermath: the years of critical reappraisal and revivals, the bickering over rights after Gershwin's untimely death, the first national tour and, ultimately, the first grand tour of Europe.

Later, chapters on the movie *Porgy and Bess* reveal what happened when Sam Goldwyn got hold of it.

But perhaps most engrossing for readers of the *glasnost* generation is the long section about the tour of the Soviet Union at Christmastime 1955, when the lively emissaries from Catfish Row brought "Summertime" to the cold, Communist USSR. Truman Capote was among the writers who covered the event. His antics embarrassed his colleagues and left the Soviets bemused, but with his gossipy, satirical, first-person report of the tour in the *New Yorker*, he was credited with inventing a new kind of journalism. Alpert's nice balancing of diverting trivia and dramatic episode makes this part of his entertaining and comprehensive chronicle a special pleasure.

James Idema
Chicago writer

The Discovery of the Art of the Insane
John M. MacGregor
Princeton University Press, $49.50

This closely written and reasoned book is first of all a survey of a large field never measured until now. The focus is formally on the "discovery" rather than the "art." The art is present, all right—you can't have a discovery without seeing what is being discovered—but the shifted focus is highly useful.

Everything in the book is documented. Illustrations of presumably mad people in antique art are mentioned in passing, but the story begins with the English painter-engraver William Hogarth (1697-1764). For the last plate in his great print series *The Rake's Progress* (1735), Hogarth placed his hero, Tom Rakewell, in Bedlam, the mental asylum outside London. For research, the artist went to Bedlam and drew what he saw. Behind poor Tom, who is on the floor being stripped and chained, another inmate stands at the wall, drawing geometrical figures at which he stares intently. This is the first known record of an insane artist in the act of creating, as seen by a sane artist.

John MacGregor follows the story for the next two and a half centuries. We meet obviously talented patients and their doctors—"alienists," as they came to be called—but the whole fascinating history culminates with yet another sane artist, Jean Dubuffet. Dubuffet, who died in 1985, was fascinated by the art of the insane, collected hundreds of examples of it, and came to believe that the insane were, in some way, closer to the inmost soul of humanity. His own Art Brut (savage art) was a serious effort to create some of what he saw as the unique values of the art of the insane. A

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Dubuffet dictum appears as an epigraph for this book:

> The madman is a reformer, an inventor of new systems, intoxicated with invention. . . . This is exactly what is required of the artist, and explains why the creation of art is so worthless when it does not originate in a state of alienation, and when it fails to offer a new conception of the world, and new principles for living.

In the book we see dozens of reproductions of the art in question, mostly in black and white, postcard size, even postage stamp size. It must be said that on this basis, the art of the insane does not fulfill the most extravagant expectations aroused by Dubuffet's statement. There are unusual juxtapositions and reversals of proportions, but not really "a new conception of the world" to compare to those of *Les Demoiselles d'Avignon* (Picasso), *Sunday Afternoon on the Island of La Grande Jatte* (Seurat), or even *The Persistence of Memory* (Dali)—the latter of special relevance as the product of a keen rationality attempting to work as if irrational.

A case overstated, however, does not mean no case. MacGregor makes a powerful case for the acceptance of this art as well worth anyone's intellectual and esthetic attention. He is equally persuasive about changing society's treatment of the insane, not only out of consideration for the humanity we share with them, but for the insights and special qualities they could share with us.

MacGregor says art-as-therapy could have value if those administering it understood art history and psychoanalysis.

As if to set an example, MacGregor himself holds a doctorate in art history from Princeton and has studied analysis at the Jung Institute in Zurich, with Anna Freud in London, and at other institutions and with other individuals. Seldom have the two disciplines been so fully integrated to their mutual advancement as they are in this provocative, enlightening book.

Frank Getlein
Art critic and author

The Desire of My Eyes
Wolfgang Kemp
Translated by Jan van Heurck
Farrar, Straus and Giroux, $40

In 1908, William James wrote to his friend Charles Eliot Norton, reporting his visit to the Ruskin Museum in England. Norton had known and admired John Ruskin, the British art critic and social theorist; James knew him only by reputation. Still, James admitted being moved by the abundance of sketches, engravings and other artwork that Ruskin had produced, and by the many photographs of Ruskin, especially those of him in old age. "Glorious old Don Quixote that he was!" he exclaimed.

Wolfgang Kemp, in his newly translated biography, gives us a Ruskin as complex and tragic as the Spanish hero, but more tormented than glorious. Kemp's assessment of Ruskin is closer to Ralph Waldo Emerson's than to James'. Emerson, after meeting Ruskin in 1873, also shared his views with Norton, confiding that he thought Ruskin's deep despondency "detestable. . . . his perversity made you angry, you could not talk with a man who insisted on being hopeless to the extreme denial of the progress of the world."

Although Emerson found Ruskin pessimistic, the two thinkers had much in common. Like Emerson, Ruskin celebrated seeing as the most significant human activity. "The greatest thing a human soul ever does in this world," Ruskin wrote, "is to *see* something, and tell what it *saw* in a plain way. . . . To see clearly is poetry, prophecy, and religion—all in one." Unlike Emerson, Ruskin was tortured by both his need and his ability to perceive.

"At times," Kemp tells us, "Ruskin experienced his domination by the eye as a genuine burden. . . ." He evolved from art critic to social theorist to prophet—always driven by his craving to see accurately and acutely. But the more he saw, the more despondent he became. The world that he observed grew increasingly ugly, disordered and even chaotic. All that he wished to see—the beauty of natural forms and the architecture of ancient buildings—disappeared under the assault of industrialization and modernization.

Ruskin's history spans the Victorian Age, and he was its harshest critic. When he first began to write about art, he celebrated the vision of such precursors as Wordsworth, Shelley and Rousseau. His epic study *Modern Painters* began as a defense of his favorite artist, J.M.W. Turner, whose works he proclaimed superior "to all the Ancient Masters." Such painters as Turner, Ruskin believed, were dedicated to ren-

dering nature as it existed, not as symbol or decoration.

An artist himself, Ruskin produced delicate sketches from his frequent travels. But his focus soon shifted from the landscape of Mont Blanc or Italian villages to the reality of the city. As Kemp explains, Ruskin believed that an artist must "create the conditions which would permit the creation of art. As long as these conditions remained unsuitable, art was neither entitled nor obliged to depict society with the realism which should justly be applied to nature. Art devoted to the depiction of decay was itself doomed to decay."

Ruskin was obligated, then, to campaign for reform, and he set himself energetically to the task, writing articles and essays on political, social and labor issues, and on urban planning. He was a fierce foe of "restorers" who threatened such priceless structures as his beloved Cathedral of St. Mark in Venice.

Ruskin's intellectual pursuits might have earned him a reputation as a visionary, but the passions of his personal life complicated his intellectual pursuits. After his unconsummated marriage to Effie Gray ended, Ruskin fell rapturously in love with a girl he had met when she was 10; he proposed marriage when she was 18 and he almost 57. That offer refused, he sank into the first of many black depressions, only to repeat the events with other young girls. In the last decades of his life, he was tortured by loneliness, bitter and, Kemp shows us, sometimes quite mad.

Kemp, a professor of art history at the University of Marburg, has written this biography (published in Germany in 1983) to introduce German readers to a thinker whose works have not been available to them in translation since early in the century. He sets Ruskin in the context of his times and, even more important, persuades us of Ruskin's significance for our own times: Ruskin was an environmentalist whose insights into the consequences of industrialization have proven chillingly accurate. Kemp's prose is sharply honed and elegant, admirably served by his translator. He might have been served better by his publisher, however: this excellent book lacks an index, a serious shortcoming that will limit its usefulness for researchers and scholars.

Linda Simon
Director of the Writing Center,
Harvard University

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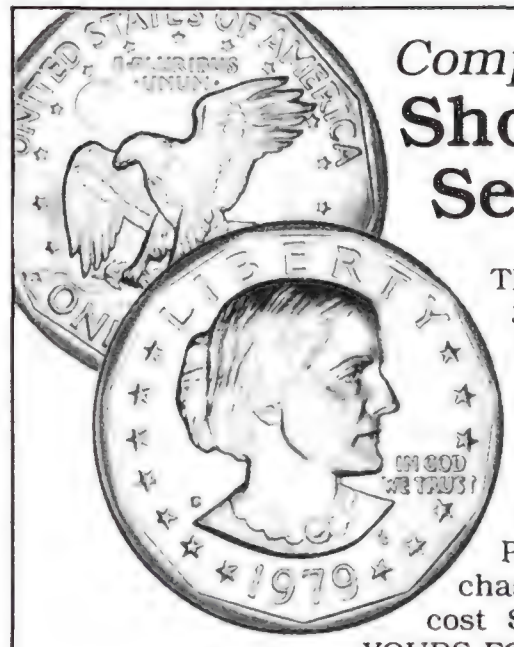

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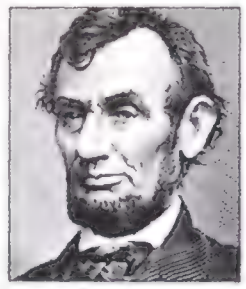

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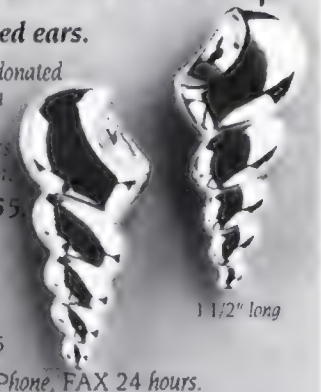

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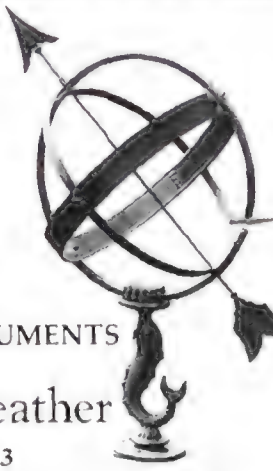

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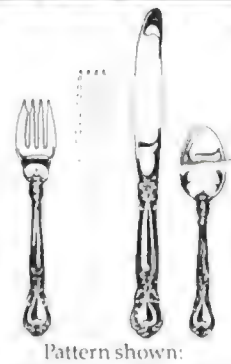

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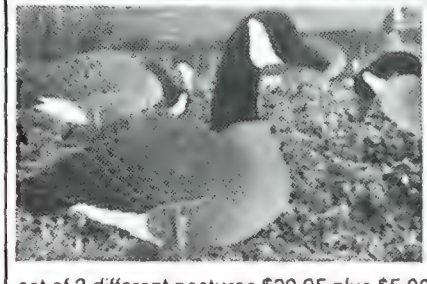

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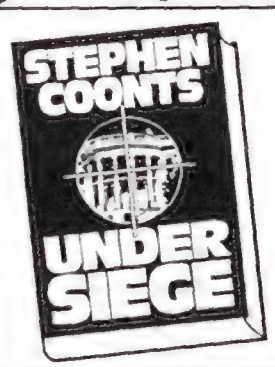

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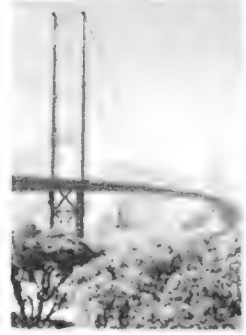
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Smithsonian highlights

Planning a Smithsonian visit?

The new VHS video *Guide to the Smithsonian* is an excellent aid for previsit planning. For ordering information and the free Associates' Planning Packet, send a postcard to Associates' Reception Center, Smithsonian, Washington, D.C. 20560, or call (202) 357-2700. For hearing-impaired visitors, use TDD and call (202) 357-1729. Begin your visit at the Smithsonian Information Center, located in the Castle. Hours are 9 A.M. to 5:30 P.M. daily.

Freer remains closed

The Freer Gallery of Art is closed until late 1992.

Washington Craft Show

The ninth annual Washington Craft Show, sponsored by the Women's Committee of the Smithsonian Associates, will be held April 18-21, in the Departmental Auditorium, 1301 Constitution Avenue, N.W., across the street from the National Museum of American History. One hundred artists will exhibit and sell work in a variety of media. There will be an admission charge. For information, call (202) 357-2700.

In conjunction with the Craft Show, the James Renwick Alliance will offer its annual spring forum, with a symposium and tours on April 20 and 21. For details, call (202) 364-8291.

Musical Weekend

Highlights of the 19th Smithsonian Musical Weekend, May 10-12, will include dinners at the Museum of African Art and the Renwick Gallery; a National

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Symphony concert at the Kennedy Center, conducted by Sir Neville Marriner; a private performance by the Smithsonian Chamber Players; tea and music at the Embassy of the Netherlands; and a champagne breakfast at the National Zoo. To obtain information, write: Musical Weekend, Box 11271, Washington, D.C. 20008.

The Contributing Membership

The Contributing Membership supports the Institution's work in education, research and scholarship. Partially tax-deductible contribution categories are: Supporting, $60 (available only to non-D.C. area residents); Donor, $125; Sponsoring, $300; Sustaining, $600; Patron, $1,200; James Smithson Society, $2,000. Members enjoy special privileges including receiving Smithsonian publications and the engagement calendar. For information write to The Contributing Membership, 1100 Jefferson Drive, S.W., Smithsonian, Washington, D.C. 20560, or call (202) 357-1699.

Special March exhibits and events

National Museum of American Art

Winslow Homer in the 1890s: Prout's Neck Observed (through May 27) The great marine paintings of the 1890s. See *Highlights continued*, page 156.

The West as America: Reinterpreting Images of the Frontier, 1820-1920 (March 15-July 7) A critical look at the role of imagery in persuading people to move West: 164 paintings, sculptures and graphics by such artists as Bierstadt, Remington and Catlin.

Tokens of Affection: The Portrait Miniature in America (March 29-June 16) Two hundred works painted between 1750 and 1850 by 80 artists.

National Portrait Gallery

Lincoln and His Contemporaries: Photographs by Mathew Brady from the Frederick Hill Meserve Collection (through February 17, 1992) Images of mid-19th-century Americans.

Recent Acquisitions (through May 6) Paintings, sculptures, prints and photographs.

Hirshhorn Museum & Sculpture Garden

Sigmar Polke (through May 5) Retrospective honoring the influential and eccentric German artist, organized by the San Francisco Museum of Modern Art.

Directions—Mike Kelley: Half a Man

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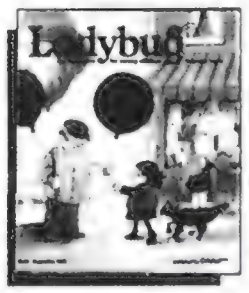

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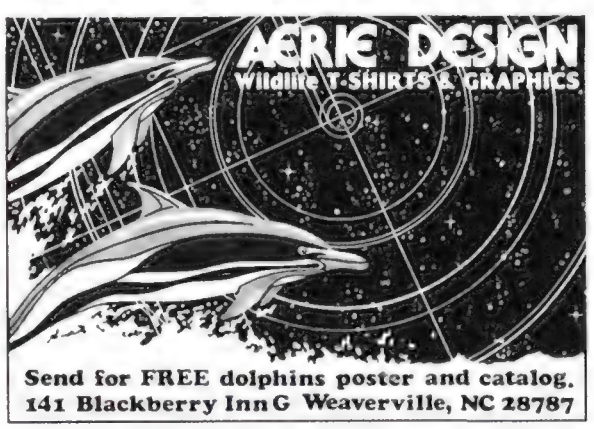

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(through May 19) Stuffed animals and afghans are among the objects transformed by the Los Angeles-based artist.

Arts and Industries Building Experimental Gallery
Project Face to Face (through March 30) Life masks, recordings, of people from all walks of life who are living with AIDS.
Casitas: An Urban Cultural Alternative (through June 30) Depicts *casitas*, a Caribbean architectural form. Includes a *casita* built on-site by members of the Puerto Rican community of The Bronx.
Principles of Flight (through May 30) Hands-on interactive exhibit helps children understand how planes fly.

National Museum of Natural History
The Yosemite: Photographs of Galen Rowell (March 21-June 16) Yosemite's majesty is captured in a collection of photographs by Galen Rowell, accompanied by quotes from John Muir's classic *The Yosemite.*
From Crystal Gardens (runs indefinitely) New exhibit showcases 20 of the most spectacular specimens in the museum's mineral collections.

National Museum of American History
The Came Collection (March 5-August 1) Apparatus and lecture paraphernalia of traveling showman and scientific lecturer Charles Came.
300 Years of American Papermaking (through November) A commemoration of craft and trade.

Anacostia Museum
Gathered Visions: Selected Works by African-American Women Artists (through April 28) Paintings, drawings, fabric art, sculptures and prints by 15 Washington, D.C. area artists.

Cooper-Hewitt Museum (New York)
The Cooper-Hewitt Collections: A Design Resource (March 26-summer 1992) Nearly 700 objects chronicle the history and collecting philosophy of one of the world's most important repositories of design.

Renwick Gallery
Glassworks (through September 29) Site-specific installations of works by contemporary glass artists.

Arthur M. Sackler Gallery
Paper and Clay from Modern Japan (through March 17) Works by prominent 20th-century artists.
The Arts of China (runs indefinitely) More than 200 objects, including sculptures and paintings, span 6,000 years.
Chinese Lacquered Furniture (through July 14) Pieces from the 15th through the 18th centuries.

National Museum of African Art
African Reflections: Art from Northeastern Zaire (March 6-January 12, 1992) Major exhibition of sculpture, pottery, basketry, jewelry and furniture explores the refined and delicate art of the peoples of northeastern Zaire.
Paramount Chiefs of Sierra Leone: Photographic Portraits by Vera Viditz-Ward (through September 2) Contemporary photographs from West Africa.

National Air and Space Museum
Blue Planet (runs indefinitely) New Smithsonian Imax film features spectacular footage of Earth and its environment, as seen from space.
A Piece of Mars? (runs indefinitely) The fragment of meteorite discovered in Antarctica in 1979 and thought to be from Mars.

Exhibition catalogs

Catalogs available currently include:
Winslow Homer in the 1890s: Prout's Neck Observed (paper, $27.50; cloth, $35)
The West as America (paper, $35; cloth, $60)
Sigmar Polke (paper, $32.95; cloth, $50)
African Reflections: Art from Northeastern Zaire (paper, $27.50)
To order, send check or money order to Museum Shops, 3301 75th Avenue, Landover, Maryland 20785. Include 15 percent of total purchase to cover postage and handling (minimum, $1.75).

Smithsonian on the air

Smithsonian Presents Invention: A new series of half-hour television programs looks at the people and ideas that have shaped our lives and futures. The series airs on the Discovery Channel every Tuesday at 9:30 P.M., EST. Check local cable listings.
Our Biosphere: The Earth in Our Hands: Film, narrated by Robert Redford, explores the pioneering work of the Smithsonian's Marine Systems Laboratory and its contribution to the building of Biosphere II. The program will air on the Discovery Channel on Monday, April 1, and will be repeated

on April 5 and 6. Check local listings.
Folk Masters: This series of one-hour radio programs, featuring award-winning performers of traditional music recorded live at Carnegie Hall, will be aired on public radio stations nationwide beginning March 27. Check local listings.

Smithsonian National Associates

This month the Program will visit Greensboro, North Carolina, March 21-24. The weekend series will feature lectures on modern art, Thomas Jefferson and the history of American railroads; a seminar on landscape painting; and a family workshop on insects.

For further information, write or call U.S. and International Events Program, 490 L'Enfant Plaza, S.W., Suite 4210, Washington, D.C. 20560; (202) 287-3210.

Resident Associate Program

To become a Resident Associate, or for fee and ticket information, call 357-3030. Here are some March events:
Sleepwalking Through History: America in the Reagan Years (March 7; 6 P.M.) Pulitzer Prize-winning journalist Haynes Johnson provides behind-the-scenes insights into 1980s politics. Cocktails, dinner, lecture.
Vincent and Me: Washington Film Premiere (March 24; 1 P.M.) Washington premiere of award-winning Canadian film, followed by a reception at the Canadian Embassy.
Rosencrantz and Guildenstern Are Dead (March 5; 8 P.M.) Playwright Tom Stoppard directed this film version of his Tony Award-winning play.

Smithsonian Institution Traveling Exhibition Service

SITES organizes and circulates exhibitions to cities throughout the United States and abroad. To sponsor a show in your community, write SITES, Smithsonian, Washington, D.C. 20560. Here are some March exhibits:
Denver, Colorado (March 1-April 12) *Kaleidoscopes: Reflections of Science and Art*, Denver Children's Museum.
Gainesville, Florida (March 17-April 28) *Facing the Gods: Ritual Masks of the Himalayas*, Santa Fe Community College Art Gallery.
Nashville, Tennessee (March 2-April 14) *Great American Comics: 100 Years of Cartoon Art*, Fine Arts Center at Cheekwood.

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Highlights continued

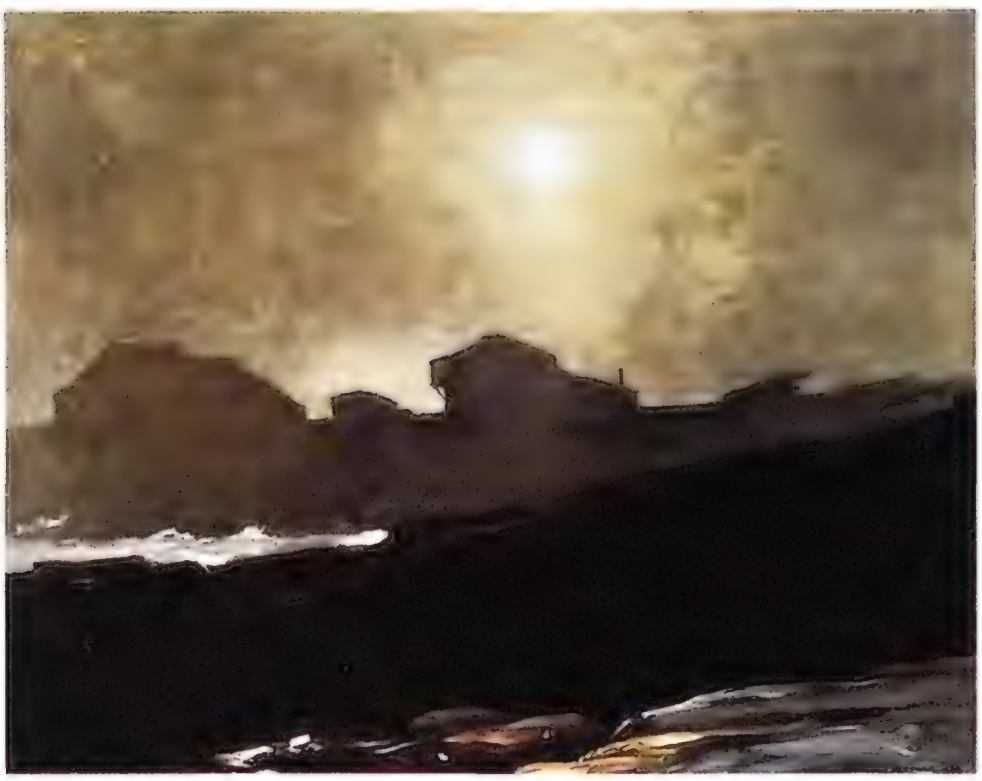
Winslow Homer's window on the sea

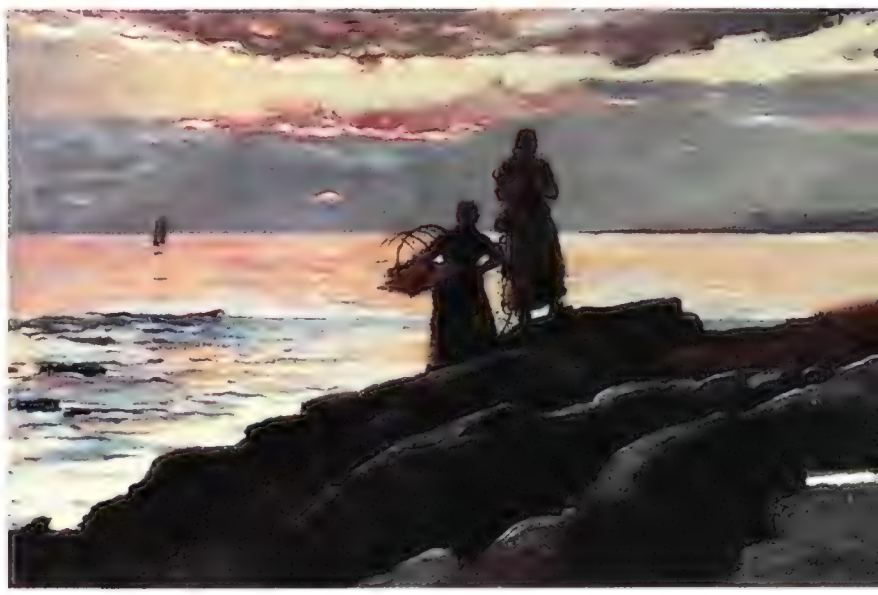
In 1883, when artist Winslow Homer was 47, he closed his New York studio and moved to Prout's Neck, Maine, just south of Portland. Members of his family had spent summers there for years, but Homer chose to take up year-round residency. There, on that bleak granite peninsula, he built a studio with a balcony facing the sea. There he became a patient and unrelenting observer of the natural scene. And there, in the 1890s, he produced a series of marine paintings remarkable for their bold composition, exploration of light and color, and expressive force. In these works we find a mature examination of themes central to Homer's career—Man and nature, fisherfolk and the sea, home and family.

It has been said that like Thoreau, Homer studied the minute particulars of nature to gain a vision of larger things. "The sun will not rise or set without my notice and thanks," he once wrote. The intensity of his examination infused these paintings with a particular sense of place and a universal sense of nature's forces and Man's fate in confronting them. These works also reveal Homer's increasing concern with the abstract and expressive possibilities of art, and reflect the superb technical skill that influenced a generation of 20th-century American artists.

"Winslow Homer in the 1890s: Prout's Neck Observed" showcases a selection of these pictures at the National Museum of American Art through May 27.

Diane M. Bolz





Sacco Bay, from 1896, captures the warmth of a summer sunset, speaks of humanity's relationship to the sea.

Distinctive silhouette of Homer's balconied studio is unmistakable in *The Artist's Studio in an Afternoon Fog.*

The force and fury of an autumnal gale is punctuated by the struggle of a solitary figure in *The West Wind.*

Tiny figures atop cliffs reinforce drama of the meeting of land and sea in *High Cliff, Coast of Maine*, 1894.

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Bryce and Zion National Parks *May 9-19*

Southwest Indians *May 15-25 or August 22-September 1*

Arches and Canyonlands (Utah) *May 18-25*

Grand Canyon Rafting *June 1-8 or July 24-31*

Alaska Cruise *June 4-17*

In the Footsteps of Coronado (New Mexico) *June 8-14* Trace the conquistador's route.

Chicago Architecture *June 12-16*

Alaska Landscapes *June 20-July 2 or July 25-August 6*

Railroading the Rockies *July 12-20 or August 16-24*

Pueblo Indians *July 13-21*

Oregon *July 14-21* Natural, cultural history.

Salmon River (Idaho) *July 18-26*

Aspen *July 20-25* Art and music.

Colorado for Families *July 20-26*

NEW Rogue River (Oregon) *July 23-29*

Nez Perce (Idaho *August 10-18*

Delta Queen *August 12-19* Upper Mississippi from Minneapolis to St. Louis.

Civil War—Eastern Theater *August 22-September 1* Visit Antietam, Gettysburg.

Waterton-Glacier *August 22-September 2* Hike in Montana and Canada.

Foreign Study Tours

Interludes *April* Leisurely exploration in Vienna, Hong Kong or Kyoto.

Countryside Tours *April-September* Relaxing sojourns in Greece, Italy, France, England, Switzerland, Austria, Wales or Germany.

Budapest Music Festival *March 13-24*

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Costa Rica *April 18-May 3*

British Theater *April 19-29*

Nile Cruise *April 19-May 5*

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NEW Islands of the Western Mediterranean *April 22-May 4* Aboard the *Renaissance.*

Berlin, Prague and Budapest *May 1-12*

Gardens of Northern Italy *May 1-12*

Brazil-Argentina *May 1-15*

Splendors of Italy Cruise *May 5-22*

NEW Gardens of Yorkshire *May 11-24*

Spain *May 16-June 1*

USSR Natural History *May 17-June 1*

Japan Cruise *May 19-June 3*

NEW Gardens with a French Flair *June 3-15* From Geneva to the Riviera.

Poland *June 7-20*

NEW China Sojourn *June 12-29*

Dorset Walks (England) *June 13-24*

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Northern Landscapes—Impressionists in Paris and Normandy *June 24-July 3*

Hikes in Austria and Italy *June 25-July 9*

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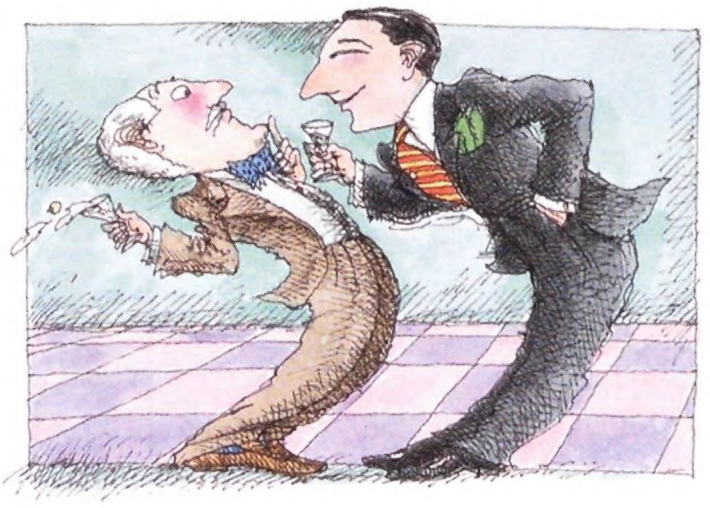
By Louis Phillips

You too can learn to flay your foes



"Insult," related to *insultare*, meaning "to spring upon." For example, when Alan Bennett said of Arianna Stassinopoulos that she was "so boring you fall asleep halfway through her name," you knew he was leaping into her soul.

That's an insult for you!

Or Dorothy Parker's classic review of Katharine Hepburn's performance in *The Lake* (1933): "She ran the whole gamut of emotions from *A* to *B*."

Where such wits are able to whip off zingers, most of us, alas, do not possess the linguistic skill to flay, with a few well-chosen words, the skin off our enemies. But then again, it may not be our fault. We have not been trained in such matters. Americans, you see, are not only far behind the rest of the world in soccer, but most of us, over the course of the past few centuries, have lost our ability to curse and insult one another imaginatively.

May I suggest that the time has come for our leading colleges and universities to introduce required courses in creative invective? Insults 102, no prerequisite.

It might start with the straight putdown, as illustrated by the quip attributed to Howard Dietz about Tallulah Bankhead—"A day away from Tallulah is like a month in the country."

Another classic of straight insult is the anecdote frequently circulated about Margot Asquith. H. H. Asquith, who was the British Prime Minister at the start of World War I, was married to a woman named Margot who pronounced her name Mar*go*.

One time Lord and Lady Asquith were attending a party, and the great screen legend Jean Harlow was there. Ms. Harlow approached Lady Asquith and said, "Why, you are Mar*got* Asquith, aren't you?"

"No, my dear," answered Lady Asquith, her voice dripping with acid, "the *t* is silent, as in Harlow."

I don't know what Ms. Harlow said by way of reply, but I hope she was able to redeem her honor.

Still, the world of insult is replete with wonderful exchanges where the one insulted *did* manage to rise to the occasion. For my money, the greatest such exchange happened between John Wilkes, the prominent 18th-century politician, and the Earl of Sandwich. The two seemed to thrive upon frequent clashes. Once, the earl told Wilkes, "Sir, you will either die of the pox or on the gallows." Wilkes looked at him and replied, "Depending on whether I embrace your Lordship's mistress or your principles."

Another famous duo who enjoyed frequent clashes of wit were Oscar Wilde and James McNeill Whistler. It seems that their words were always at each other's throat. Once they were dining together and Whistler said something particularly memorable.

"I wish I had said that!" exclaimed Wilde.

"Don't worry, Oscar," answered the artist. "You will, you will."

Of course, it's good clean fun to polish the flaws and vices of individuals until their frailties shine for all to see, but it may be more fun to tackle entire cities, states and countries. Los Angeles is a sitting duck: "The difference between Los Angeles and yogurt is that yogurt has an active, living culture."

Moving up to states, there is Gen. Philip H. Sheridan's classic swipe at the great state of Texas: "If I owned Texas and Hell, I would rent out Texas and live in Hell." Will Rogers gave a sly dig to his own state of Oklahoma when he said, "Introducing an Oklahoma governor is kinder a tough job. You never know before you get through speaking but what he has been impeached while you were singing his praises."

Expanding insult's geographical boundaries, Oscar Wilde managed to disparage an entire country when he declared: "Of course, America had often been discovered before Columbus, but it had always been hushed up."

Mahatma Gandhi went Wilde one better. When asked what he thought of Western civilization, the great leader replied: "I think that it would be a very good idea." It is not often that one can so wittily devastate half the world in a single sentence.

Still, as heartwarming as those above exchanges are, the soul of a truly memorable insult is frequently a figure of speech, an image so outrageous or original that the victim is stunned by word conjuring akin to poetry. For example, one wag's pithy description of Margaret Thatcher as "Attila the Hen." It may be awful, but we have to laugh.

And who shall ever forget Winston Churchill's imagery, as he skewered the redoubtable Ramsay MacDonald? I can hear the rotund voice speaking now: "At Barnum's Circus the exhibit which I most desired to see was the one described as the 'Boneless Wonder.' My parents judged that the spectacle would be too revolting and demoralizing for my youthful eyes, and I have waited 50 years to see the Boneless Wonder sitting on the Treasury Bench."

Ah! To hear such wit anew! Am I the only person tired of the four-letter obscenities that fill so much of today's speech? We need to teach the next generation to discard the common street talk and to vent its anger, rage and critical faculties memorably. Believe me, when Harvard, Yale, Princeton et al. offer Invective 101 or Insults 102, I shall be among the first to sign up.

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Sandi Fellman
"Les Fleurs d'Amour"
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